THE THIRTY-EIGHTH YEAR.

Companion to the Almanac;

OR,

YEAR-BOOK

OF

GENERAL INFORMATION

FOR

1865.

I.

GENERAL INFORMATION ON SUBJECTS OF MATHEMATICS, NATURAL PHILOSOPHY, NATURAL HISTORY, CHRONOLOGY, GEOGRAPHY, FINE ARTS, PUBLIC ECONOMY, &c.

II.

THE LEGISLATION, STATISTICS, PUBLIC IMPROVEMENTS, AND CHRONICLE OF 1864.

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PART I.

GENERAL INFORMATION ON SUBJECTS OF MATHEMATICS, NATURAL PHILOSOPHY, NATURAL HISTORY, CHRONOLOGY, GEOGRAPHY, FINE ARTS, PUBLIC ECONOMY, &c.

I.—THE INDIA MUSEUM AND DEPARTMENT OF THE REPORTER ON THE PRODUCTS OF INDIA.

In 1798 (or about two centuries from the time when "a few ironmongers, clothiers, and other substantial people of that kind," were presented to and obtained from Queen Elizabeth a Charter to trade with Hindustan), the Court of Directors of the Hon. East India Company passed a resolution to devote a portion of their house in Leadenhall Street for the establishment of a Museum, and Mr. (afterwards Sir Charles) Wilkins, thereupon submitted a plan for its organization.

The object of this Museum was stated to be the exhibition, for public information and benefit, of a collection of the natural products of India. "Such animals, parts of animals, or produce of animals as were used in commerce, were also to be admitted," while objects of general interest, as specimens of Indian manufacture, were not to be refused, if offered as presents.

In connection with the museum, a library was also founded. This was to include Oriental manuscripts, coins, medals, &c., &c., and such publications on Asiatic subjects as should be deemed useful for reference, including all works and maps published under the auspices of the Company. In 1800, Mr. Wilkins was appointed librarian, and charged with the foundation of the museum.

For many years after the museum was opened to the public, it was usually regarded as an exhibition of interesting curiosities, either collected by civil servants of the Company during their official relations with friendly native courts, or obtained as trophies in warfare. Subsequently, Dr. Horsfield, a zealous naturalist, as Curator of the museum, commenced the formation of an extensive Natural History Collection, which included the results of his own labours while resident in Java, and the specimens collected elsewhere by officers who, in the midst of their official labours, lost no opportunity of adding to the general knowledge of the zoology of Asia, and especially of India.

Several large and important groups in this portion of the museum are the contributions of well-known members of the Indian service, of Anderson and Finlayson, Drs. Buchanan and Wallich, Sir T. Raffles, Sir Proby Cautley, Colonel Sykes, and others.

The earliest collection of raw products seems to have consisted of samples selected from the stores of lac, ivory, saltpetre, indigo, tea, spices, &c., imported in the Company's ships, and bonded in its immense warehouses in the eastern districts of the City of London. These buildings, situated in Jewry-street, Cutler-street, Billiter-street, Fenchurch-street, and other places, are now principally occupied by one or other of the Dock Companies, and may be regarded as vast relics of a defunct monopoly.

Other additions to the then meagre collection of raw products were principally contributions by Drs. Roxburgh and Wallich, Mr. Claude Russell, and others (generally officers in the Indian Army Medical Service), whose scientific researches, encouraged and supported by the liberality of the Court of Directors, have done so much to extend our knowledge of the resources of India.

In 1851 a new era opened for the museum. Most persons will remember that in the Indian Court of the Great Exhibition, the munificence of native princes and merchants vied with the liberality of the East India Company in furnishing the magnificent collection exhibited on that memorable occasion, and that not the least important portion of the display consisted of the densely packed stands of Indian produce. Although at the close of the Exhibition, various articles of great interest, and most of the donations of the native princes, were unfortunately sold, many admirable specimens of Indian manufactures and products were removed to the India House, and it then became the object of Dr. Royle to re-arrange the museum, in order, as far as space would allow, to admit of their introduction, so as to render the whole collection of important utility in not merely a scientific but a commercial point of view. The cost of the 1851 collection amounted, it is said, to 160,000*l.*, whilst that of the Indian Department of the Paris Exhibition, in 1855, reached upwards of 60,000*l.*—and of this last the greater portion became the property of the museum. By 1857, the extension and reorganization of the museum had made great progress, when, unhappily, the completion of this task was interrupted by the decease of Dr. Royle, "to whose eminent talents and vast acquirements" the Court of Directors paid a well-merited tribute, by ordering the execution of the bust, which occupies a prominent place in the museum—"an appropriate and enduring mark of the high sense which the Court entertained of the value of Dr. Royle's services to India and the country."

In the end of 1858, after a period of some anxiety on the part of the public as to the intention of the authorities with respect to the museum, Dr. Forbes Watson was appointed, by the then Secretary of State, to succeed Dr. Royle, under the somewhat ineuphonious but sufficiently indicative title of the "Reporter on the Products of India."

Returning to the history of the museum. In 1860, the legislature having placed the administration of the affairs of India in charge of a

Secretary of State, aided by a Council, the well-known old East India House was vacated by the authorities for more convenient proximity to the head-quarters of the ministry. The voluminous records and dusty bonds followed the executive to its temporary offices in Victoria Street; and the library and museum, hitherto deemed coexistent and inseparable, dissolved partnership, the former removing its *habitat* to the offices of the late Board of Control in Cannon Row, and the latter succeeding Lord Liverpool in the occupation of Fife House (its present *locale*), at the rear of the Chapel Royal, Whitehall, and adjoining the United Service Museum. Although constructed specially for a private residence by "Old Earl James" of Fife, the capacity of the building has been well utilized for the purposes of the museum, and the difficulties which otherwise might have arisen from the distribution of the collection into various apartments, have been, so far as possible, obviated.

By a considerable expenditure of time and labour, a tolerably systematic arrangement has been produced; and a handbook or guide, as well as a large illustrated catalogue of the whole collection, are now in course of compilation. Although it is true that certain objects in this museum are remarkably interesting from their association with prominent incidents in the history of British India, the legitimate purpose of the collection, as attached to the Department of the Reporter on the Products of India, is not only to afford evidence of the productions of the country, but to aid him in exhibiting in an intelligible form what products and manufactures are available for export, or capable of improvement; to suggestively illustrate what kind of material the inhabitants wear or otherwise consume; and, in short, to assist in extending the commercial relations of the two countries.

While the museum is admirably calculated to fulfil these important objects, it also imparts to the visitor an excellent general idea of India, affording, so to speak, an *epitome* of the country as a whole. It illustrates its HISTORY and TOPOGRAPHY, its PEOPLE and their COSTUMES, MANNERS, TRADES, and RELIGIONS; its ANTIQUITIES, AGRICULTURE, MANUFACTURES, MINERAL RESOURCES, and NATURAL HISTORY. In the following brief notice of this valuable collection, the order above indicated will be observed, although, on account of the difficulties connected with the allotment of space in the present building, as well as the necessity for giving prominence to certain features of more practical importance, it is not strictly that in which the various illustrations will come under the eye of the visitor.

Throughout the museum will be found various objects, interesting from their associations with the HISTORY of India. The series of statues which formerly occupied places of honour in the court-room of the India House are now deposited here. They include Flaxman's Warren Hastings; Lord Clive, by Schleemakers; Lord Cornwallis, by Bacon; the Marquis Wellesley, by Weekes; Sir Eyre Coote, by Banks; Sir George Pocock; General Stringer Lawrence; and a statue by Noble, and bust by Turnerelli, of the Duke of Wellington. In the large saloon are suspended portraits of Hastings, Cornwallis, and of Generals Nott and Pollock, the heroes of Ghuznee and Cabool.

At the siege and fall of Seringapatam, and the death of Tippoo Sultan, the treasures of that prince's court fell into the hands of the victors. The *Tiger*, so well known in days gone by to all visitors to the museum and library in the old India House, is said to have been formerly a favourite toy of this (as he is thought, and doubtless was) savage chief. The figure is so constructed that by turning a handle the animal's growl mingles—or is supposed to mingle—with the dying groans of the victim it is in the act of destroying. Portions of Tippoo's wardrobe were also forwarded to the Court of Directors, and here are now to be seen the coat of mail and helmets used by him when on horseback in the field.

Another barbarous relic, in the shape of a weapon, will be found among the arms. This is the steel "bagh nâkh," or tiger's claw, with which the treacherous Sivaji murdered Afzal Khan, the Bijapore general, at Pratapgarh in October 1659, and then destroyed his army. From this occurrence may be dated the rise of the Mahratta and the decline of the Mahomedan power in India. The above are some of the objects of historic interest, and others are of frequent occurrence in corridors, staircases, and other parts of the museum.

Topography.—India contains about 1,300,000 square miles of territory intersected or bounded by lofty ranges of mountains, and with a greatly varied surface of valley, delta, and table land.

The large *relief map*, by Montgomery Martin, affords an excellent idea of the formation of this vast tract, and enables the spectator to comprehend immediately the magnitude of the Himalayan, Suliman, and Vindhyan ranges, the Eastern and Western Ghauts, the great water-sheds, and the other prominent features of the country.

A fac-simile of this admirably constructed map is now being prepared in the *Reproduction Branch* of the department in order that copies of it may be available for presentation to the Army Medical School at Netley, as well as probably to other institutions throughout the country.

Amongst the pictorial illustrations in the museum coming under this head are some excellent chromo-lithographs and prints in oil from original water-colour sketches, made by the Brothers Schlagintweit during their scientific tour, of picturesque scenery in the mountainous districts of Thibet and Nepal, with others, mostly views in the hills and valleys of northern India.

In addition to the illustrations above referred to, photography has rendered important assistance in producing faithful reflections of many of the splendid scenic and architectural features, known only to the general public by imperfect description.

The People of India.—Within the entrance-hall arrangements are in progress to bring us, so to speak, face to face with our Indian fellow-subjects. Here are being arranged a selection from a series of photographs, representing upwards of twelve hundred different individuals, and it may be fairly said that never before has such an admirable opportunity been afforded of forming a clear impression of the general characteristics of the aboriginal and other tribes of India, or, indeed, as far as we know, of any other country.

The idea of having photographs taken of the principal types of the

people was originally suggested by Lady Canning. There being, however, then difficulties in the way of carrying this into effect, it remained in abeyance till the collection of articles of industry sent to the late Exhibition of 1862 afforded the required opportunity. In addition to its ethnologic value, this unique collection shows the Costumes of the people. It presents the manufacturer with a correct idea of the *function* of the different portions of the articles of dress used by them, giving the reason for the introduction of ornamentation at certain parts and not at others; all points having an important bearing upon the extension of our commercial relations with India. For this, full success requires a knowledge of the "fashions" of its people. These in India, although not yet liable to the fluctuations which in this and some other countries tend so materially to keep alive their internal commerce, are, nevertheless, more distinctive of their kind, and for the present require the strictest attention to the "unities" of form and colour to which the eye has been accustomed through generations.

The Secretary of State has ordered the reproduction of the whole series of these most interesting photographs, with a view to the presentation of copies to different institutions in this country. With this view upwards of 500 negatives and 50,000 copies have been taken during the past summer in the *Photographic Branch* of the department. This work, which, with its descriptive text, is being brought out under the joint auspices of Dr. Forbes Watson and Mr. Kaye, is expected to be ready at an early period. A smaller work, embracing a selected series specially representing the modes of wearing the different articles of Indian costume designed to accompany the one on the textile manufactures of India, to which reference will again be made, is expected very shortly to make its appearance.

Manners; Customs; Trades and Employments; Domestic Utensils; Weights and Measures; Coins and Money; Modes of Conveyance, Carriages, and Boats; Amusements, Toys, and Games; Dances, Marriages, and Festivals.—Under each of these headings illustrative groups of considerable extent are to be found.

The series of plastic models show the customs and trades pursued in the East. Of these the figures from Kishnagur, Poona, Belgaum, and Lucknow are the best. Many of them are considered to be faithful copies from life, a fact which adds to our admiration of their execution as works of art.

In certain instances groups have been found to represent some ceremony or scene of interest. The Nautch dance, with its accompanying Rajah, tent, and dresses richly embroidered in gold. Another, the busy market-place or bazaar with the sellers of grain, fruit, cloth, with the all but speaking evidence of the "bobbery" or noise which accompanies such a scene.

The collection of the Weights and Measures used in India is very complete, and affords good evidence that other places besides England suffer from variety in a matter which requires uniformity in system between not alone the divisions of the same country, but, as far and as speedily as possible, the civilized nations of the earth.

Of ancient as well as modern Coins the series is of considerable extent and great value. The whole are at present in the hands of Mr. Edward Thomas, our greatest Indian authority on the subject, who has undertaken to arrange the series for ultimate exhibition in the place assigned to it in the museum.

Under the head of Modes of Conveyance a fine collection of models of boats exists. For swiftness the Bombay "Pattimar" has, we believe, never been surpassed, and its peculiar keel and sail arrangements are well worth attention and study.

The only other group, to which under this head we think it necessary to allude, is that of *Musical Instruments*. The monotonous music of the Hindus, and the eternal tom-toming of itinerant minstrels is discordant and wearisome to the ear of the uninitiated; the drum is not, however, the only native medium for harmony. Some of the stringed instruments in the museum, such as the Sitarah, Sarungee, Chikorah, &c., in skilful hands are capable of "discoursing most excellent music." Here are also clarionets and trumpets, with other wind instruments of various sizes and peculiarities, cymbals, gongs, and, in short, the whole apparatus of an orchestral band.

Religion.—The peculiar forms of Hindu worship are amply illustrated by various objects in the museum, including a collection of idols, large and small, plain and ornamented, in silver, brass, copper zinc, marble, stone, wood, and ivory.

These are from all parts of India, and have been contributed at various times by Sir Joseph Banks, Colonels Mackenzie, Tettley and Ogg; Drs. Wilkins and Horsfield; by Davis, Taylor, Finlayson, Moor, and others well known for their researches into the antiquities and religion of the Hindus.

These figures represent almost every Avatara or form of Incarnation, in which the favourite deities of the Hindu, Brahma, Vishnu, Shiva, and their wives Sereswati, Lakshmi, and Durga, and Hanuman the monkey-god, are worshipped. The whole collection is now in course of classification and arrangement; and it is proposed, with the aid of these idols and other similar objects in the museum, to prepare a series of photographs illustrative of the Hindu pantheon and modes of worship.

Buddha is also represented in various positions, the ornamentation of the figures being in some instances remarkable examples of elaborate casting in metal, and of sculpture in black marble.

The Faqueer, or religious ascetic, a compound of fanaticism and sloth, is represented among the plastic models; and the use of machinery to facilitate devotional exercises, is illustrated by the revolving prayer cylinder of the Lamas or Buddhists of Thibet.

The temples, tombs, and rock-cut caverns of India, have always been regarded as of remarkable interest by the traveller. The Ajunta, Ellora, and Elephanta cave temples, and the mausoleums and other edifices in various places throughout the country, are well illustrated. The series of copies by Major Gill from the original frescoes in the Ajunta caves are at present at the Crystal Palace, Sydenham, space not permitting of their exhibition in the museum. The beautiful little collection of views of modern temples, exquisitely painted

on ivory, taken in conjunction with the photographic illustrations and the sketches in oil, afford an interesting and authentic series. A large collection of sacrificial utensils and various models also serve to illustrate the details of the religious worship of the people.

In various parts of the museum may be noted the marble slabs of different shapes and sizes, covered with representations in relief of Buddhistic ceremonies and historical subjects. These belong to the sculptures known as the Elliot marbles. They were discovered about 1801 by Colonel Mackenzie, who presented one or two of the more elaborate slabs to the museum; but the extrication and preservation of the bulk of the collection is due to Mr. Walter Elliot, who is, we understand, about to supply a descriptive and reliable account of the whole series. These remarkable sculptures are supposed to have been executed about A.D. 1400. They are from the ruined temples of Amravati, near Guntoor, Madras.

We have now to consider the museum as illustrating the AGRICULTURE AND PRODUCTS OF THE SOIL.

First in order stands the SOIL itself. Here we have exhibited not only the various soils of the country, but their composition and physical qualities; the results of a protracted and laborious investigation. The valuable data thus obtained has afforded the means of contrasting the soil of India with that of other countries, and with the result of showing that in point of innate power it is inferior to none. The mechanical appliances or AGRICULTURAL IMPLEMENTS used in its cultivation — the clod-breakers, ploughs, harrows, drills, and other weapons of peaceful warfare, are all shown, and one, at least, of these —the drill-sowing machine—may be pointed out as an instance in which an article in use in India, from time immemorial, had been successfully patented in this country. Nor is this the only instance in which Indian skill and Indian art have taken long precedence of the boasted knowledge of the West.

In considering the Products of the Soil, those employed for human FOOD first demand attention. In the Case devoted to these, there are several hundreds of specimens, exhibiting the varied food resources of the vegetable-feeding Hindu. The wheat, barley, and various millets which constitute the bulk of his diet; rice, the favourite of the rich, but only the occasional meal of the poor; and the numerous pulses, some of them so rich in nitrogen as to yield substances which are to the poorer grains of the Hindu what beef is to the potato of the navvy-transformed Irishman. The analyses of the different grains, showing their relative value, as in the case of the soils, add greatly to the interest and importance of this part of the collection.

Of SUGARS from the *Cane*, *Date*, *Palmyra*, *Cocoa-nut*, and *Gomuti Palms*; of STARCHES, such as *Sago and Arrowroots*; of MUCILAGINOUS FOOD SUBSTANCES, such as the *Salep misree* of the north, held in high but fanciful esteem for its vigour-imparting properties,—there are numerous representatives.

In the food arsenal of the Hindu, SPICES and CONDIMENTS occupy a prominent place, and it is curious and interesting to reflect on the important influence which these flavorous substances have exercised on the past history of European enterprise; for it was not so much the

precious stones and gorgeous fabrics of the East which in the middle ages attracted attention to India, as her "spices." The monopoly of the trade in these was the prize for which the natives of Europe successively struggled: it was this which set men's wits to work to find out new and independent routes to that famed land, and which resulted in the discoveries of Columbus and Vasco de Gama.

The collection of Indian PICKLES and FRUIT PRESERVES include a large number of specimens; and, besides those already held in esteem by the epicure, there are many others which have yet to find a place in this market.

TEAS.—The extraordinary strides taken by tea cultivation in the Himalayan districts of northern India, give more than usual interest to the extensive series of samples of this important commercial product; and a fair idea of the extended cultivation of the plant may be gathered by the number of gardens and plantations represented by their produce in this division of the museum.

In the Indian Department of the Exhibition of 1862 five Medals and eight certificates of Honourable Mention were awarded for Indian-grown teas; thus affording a guarantee in respect to quality, while the export trade is increasing at a rate which will render it, at no distant period, of vast extent.

COFFEE.—Tradition affirms that the Coffee plant was first brought into India from Arabia about 200 years ago by a Mussulman pilgrim. The successful enterprise of a few European planters in the Mysore hills has been followed by the cultivation of the plant over thousands of acres in Coorg, the Neilgherries, and the highlands of the south generally; and the Indian coffee trade bids fair in time to rival that of Ceylon. Samples of coffee are exhibited from Mysore, Chota Nagpore, Chittagong, Malacca, Penang, and Singapore, indicating the possibility of a wider extension in the growth of this important plant than is at present considered likely.

Passing by SPIRITS, such as *Arrack* (the old bane of the British soldier in India), *Rum*, and a variety of others, from widely-distributed localities, we come to the NARCOTICS; the *Tobacco*, *Betel Nuts*, and *Bhang*, with which the native solaces his own working hours, and the *Opium* in all its forms, with which he supplies the inhabitants of the Celestial Empire.

The PERFUMES of India are more pleasing, although commercially less important, subjects for contemplation. So diversified is the collection that it would appear as if no fragrant property of Indian vegetation is unrepresented. Flowers, grasses, roots, and woods of odorous nature, and the essences extracted therefrom, are exhibited, including attars and volatile oils, ointments, pastiles, and scented powders:—in fact, all the forms of fragrance in use at the toilette of the wealthy native.

PHARMACEUTICAL SUBSTANCES.—Abundantly productive as is the soil of India, it is not surprising that the pharmaceutical substances in use by the natives of the continent and peninsula are remarkably numerous; and so many of these employed are unknown in European practice, that an Indian pharmacopœia would well repay the inevitably great labour involved in such a compilation. The large

collection shown embraces representative samples from all parts of the continent of India.

The specimens of GUMS and RESINS are numerous, and in many instances merit attention, as they include some not yet introduced into commerce, but plentiful in the jungles. Several balsamic and medicinal gums found in the native bazaars are also worthy of notice.

Of ELASTIC and PLASTIC GUMS there are numerous examples, such as Caoutchoucs from Assam, Singapore, and Southern India; Gutta-perchas from the Malayan peninsula, as well as gutta-like substances from other parts within British territory.

OILS and OIL-SEEDS are staple articles of export from India; and the consumption in the country being general among a population of above 180,000,000 of human beings, for medicinal, culinary, and manufacturing purposes, it may be imagined how vast are the resources of India in this respect, and how extensive must be the area of land under cultivation. To name the localities whence the samples of oil-seeds exhibited in the museum have been received, would necessitate reference to almost every province on the continent of India and the Malayan peninsula. Besides the oils and oil-seeds of commerce, there are many interesting specimens of vegetable solid fats and butters, and several vegetable tallows, believed to be at present unknown in Europe.

COTTON.—The capability of India to furnish a product of much greater importance to British commerce than any of the foregoing is amply exemplified by upwards of 250 samples of indigenous cottons, forwarded from every part of India, and by many examples of fibre from exotic seed, equal in quality to that which, up to the outbreak of the American civil war, controlled the markets of Europe. Although the indigenous article is somewhat inferior to the New Orleans varieties, it is doubtful whether the inferiority is so great as is generally imagined; the present low position of India cotton in this market being chiefly referable to the dirty condition in which it has hitherto been imported. The measures necessary to put the cotton trade of India upon a permanent and satisfactory footing are now under discussion, and it is to be hoped that these may be carried to a successful issue.

FIBRES.—The products of the other fibre-yielding plants of India are largely represented. This important section has been classified in accordance with the capability of the different fibres to fulfil certain functions.

Amongst fibres suited for spinning and manufacturing purposes, we have most promising examples of *Flax* from the Punjab; of *Rheea* from Assam; of the Neilgherry nettle, &c. Whilst *Jute* and a variety of others occupy a place in the group, but are of inferior durability.

Next come fibres chiefly suited for the manufacture of cordage and twine; then those not only adapted for purposes similar to the last-named, but in addition capable of being manufactured into dresses, imitation horse-hair cloth, &c.

The last group comprehends those fitted for the manufacture of mats, brushes, coarse cordage, &c.

DYES.—Intimately connected with the adornment of our textiles

are the dyes and vegetable colouring materials, which under the influence of the brilliant sun of India are so copiously elaborated. In addition to these we have numerous examples of astringent barks, galls, and other products of similar utility from all parts of India.

Woods and Timbers.—This portion of the collection originally consisted of specimens contributed by Drs. Wallich and Roxburgh, but it is now so extensive that while a careful classification has been rendered necessary, the limited space available for their exhibition at present offers an obstacle which will require considerable ingenuity to overcome. The most important additions to the series were received among the consignments to the Exhibitions of 1851 and 1862. The number of specimens stored in the museum now exceeds 2,000.

In this necessarily brief reference to the soil-products of a continent like India, it has been impossible to give more than a passing glance at the collections in the museum.

Of the value of the whole series there can, however, be no question; affording, as it does, suggestions to the capitalist, the means for useful comparison to the merchant, and to the general public an epitome of the all but illimitable resources of our Indian empire.

Animal Products.—An apartment adjoining the excellent Natural History collection in the museum is exclusively appropriated to the exhibition of this important group.

Raw Silks.—The central case contains a large number of the raw silks produced in India, with illustrations of the producing insects, their cocoons, &c. The specimens comprise Eria silks from Assam, Oude, and Singapore; Tussurs from Cuttack, Bhagulpore, Raepore, Assam, &c.; and Pat and Moonga silks, principally from Assam. Manufactures from the several filatures also accompany the examples of the raw material.

Among other raw silks in various stages of preparation for manufacturing purposes, may be noticed specimens from Surdah, Commercolly, Berhampore, Oude, the Punjab, Cashmere, Khorassan, Bokhara, Bombay, Mysore, Madras, Arracan, Pegu, Singapore, &c. A very complete series of dyed floss silks is exhibited from Cachar, Assam, Cashmere, Umritsur (the greatest silk depôt of the north-west), Peshawur, Shikarpore, Tatta, Bombay, Madras, Moulmein, Burmah, &c.

Wools.—The collection of wools is also extensive, and includes the products of Thibet, Cashmere, Cabul, Sind, and other localities in Northern and Western India and the adjacent territories.

Camel's Hair.—This material, of which specimens are exhibited, from Hyderabad, Sind, is used for "chogas," or coats, and for blankets, &c., of a coarse texture. A specimen of rope of this substance is exhibited.

Feathers.—The use of feathers for ornament and apparel is represented by fans decorated with peacock's feathers, and victorines, boas, muffs, &c., from Calcutta. A kind of cloth woven with birds' feathers, from North-Western India, is peculiar.

Horns and Ivory.—The local consumption of these substances in manufacture is chiefly carried on in the northern districts of Madras, and, with porcupines' quills and tortoiseshell, are employed in the production of workboxes, desks, and other articles of a similar

character. The samples of tortoiseshell are from the islands of the Indian ocean.

Leather.—The examples of dyed and tanned leather are from Nepal, the Punjab, Sind, Hoonsoor, Madras, &c. The principal seats of the leather trade are Meerut and Cawnpore. At the latter place there are about fifty tanneries, turning out about 60,000 hides per annum, and extensive manufactures of saddlery and other leathern goods.

Lac is an important item in the trade returns of India, and is exhibited in all its varieties of *stick*, *shell*, *seed*, and *cake lac* and *lac dye*, from all parts of the continent and the Malayan peninsula. Its use in manufacture is illustrated by samples of sealing wax, dyed cloth, and bangles, chains, and other articles of personal ornament.

This division also includes numerous samples of other animal products useful in the arts and manufactures; such as *galls* from Bombay and the Himalayas; *glue* from Darjeeling, Ahmedabad, Tenasserim; *cowries*, *mother-o'-pearl* and *chank shells*, with manufactures therefrom, from the Archipelago; *blistering beetles* and *beetle-wings* from Assam and Madras; samples of *beeswax* from Sylhet, Chota Nagpore, Coorg, Mysore, Travancore, Pegu, Moulmein; and *animal oils* and *tallows* from Calcutta, Gya, Madras, Burmah, Tenasserim, &c. The *fish oils* are principally sharks' liver oils from Calcutta, Patna, Canara, Malabar, and the Archipelago.

The edible substances exhibited in this section comprise the following, viz., *shark fins* and *fish maws* from Akyab, Burmah, Penang, Singapore, and the Archipelago; dried *shell-fish* and *trepang*, or sea-slugs, from Akyab, Penang, and the Archipelago; *edible bird-nests* from Akyab, Junk, Ceylon, Borneo, and Java; *wild honey* from Calcutta, Moorshedabad, Gya, Madras, Ulwar; and "Ghee," or Indian butter, from Jafferabad and Madras.

The Mineral series, although intelligibly grouped, rests under the disadvantage of being densely crowded: the small apartment in which the collection is deposited contains material sufficient to occupy three or four times the extent of space now available for their exhibition.

Ores.—The *Tin Ores* exhibited in the museum are principally from the Malayan peninsula, as tin is but seldom found on the main continent of India.

The specimens of *Copper Ore* are from Singbhoom, Dalbhoom, Darjeeling, Lahore, Bellary, Guntoor, Nellore, Burmah, &c.

Iron Ores.—Many of the iron ores of India are noted for their richness and purity. The Indian steel, or wootz, has long been celebrated for hardness and durability; but there are other qualities of iron, which can be manufactured from the Indian ores, well suited for use in various branches of industry. The native mode of smelting is very imperfect, though the charcoal fuel, extensively used in India, produces metal of the best quality. Iron ores occur in immense quantities in various parts of the country.

Lead.—The samples of lead ores and lead exhibited are chiefly from Beloochistan, Madras, and Rangoon. The most common is the sulphide, or galena, in which silver is frequently found.

Gold dust and sands from the river deposits of Jubbulpore, Cuttack, Chota Nagpore, Assam, Peshawur, Pegu, &c., are shown. The

tools and vessels used in its extraction by washing are exceedingly simple and primitive.

Coal.—Among the non-metallic minerals, of which there is an immense variety, coal holds an important place in relation to the future of India, and the collection indicates the extent and quality of the deposits of this invaluable product.

This section of the museum also comprises samples of *lignite* from Cuttack, Chittagong and Assam, and *petroleum* from Mangalore, Assam, Arracan, and from Burmah, where it is closely monopolized by the king.

In *Kaolins*, or porcelain earths and clays, Southern India is perhaps richer than any other country. The series of clays from Madras are remarkably various and brilliant in colour.

The *building* and *lithographic* stones, specimens of *mica*, of *steatite*, and of *fossil* woods, complete this division of the mineral products.

Of substances or mineral compounds of a chemical description, we have to notice *Salt*, *Saltpetre*, *Carbonate of Soda*, and *Alum*, *Tincal* or *Borax*, *Sulphate of Iron*, and *Orpiments*. Amongst earthy and semi-crystallized minerals we have *Graphite*, or *Plumbago*, and *Corundum*, and, lastly, *Sulphur* and *Antimony*.

The collection of *precious stones* is meagre. It comprises a few specimens of Diamonds, Turquoises, Garnets, Rubies, Ruby Sand, and Opals. The series of minerals used for personal ornament, &c., consists of Agates, Jaspers, Bloodstones, Garnets, Rock Crystal, and Jade, in a large variety of examples in the rough state, and as adapted for ornamentation. Of the agates, those from Cambay in Guzerat are the most noted. Articles in rock crystal and jade are much prized by the native nobility as well as by Europeans, and are frequently mounted in gold and precious stones. The museum collection contains some very beautiful examples.

We now proceed to briefly indicate the principal examples of Indian manufactured articles.

Pottery.—The collection of pottery, materials for which abound in most parts of India, comprises specimens of varied character from Moorshedabad, Jessore, Patna, Lucknow, Amroha, Azimgurh, Allahabad, Hyderabad, Mysore, Madras, &c.

These articles are remarkable for symmetrical simplicity in form; but, at present, unless special orders be given, the native potter seldom turns out anything but the commonest vessels for domestic use, and his mode of preparing the clay is still very imperfect.

Sculpture and Works in Stone.—The Elliot marbles from Amravati, already alluded to, serve to illustrate the patient labour bestowed on sculpture of a mythological or historical character, in the decoration of the ancient temples of India, and with these may be classed some of the more highly finished idols.

Among the modern productions in stone or marble are the perforated screens from Delhi, Mirzapore, Benares, and Rajpootana, affording good examples of geometric designs.

The mosaic work (marble inlaid with carnelians, lapis lazuli, &c.) from Agra merits special attention; and so likewise do the series of

carvings in jade and crystal, and the collection of articles in agate from Ahmedabad. The soapstone (steatite) of India has also afforded a facile medium for the skill of the native sculptor, and the result is some beautifully finished specimens from Agra. This substance is, however, so brittle that but a few examples have been received uninjured. A large number of vessels and figures of animals carved in stone from various localities are also exhibited, and are principally remarkable for accuracy of form.

Carvings in Sandalwood.—The large collection of highly ornamental articles in Sandalwood (the fragrant *Santalum album*) affords beautiful examples of native skill, and displays admirable taste in the judicious control over profuse and elaborate ornament.

The wood carvers and manufacturers of inlaid work in Madras, Bombay, and Mysore, have of late years produced very elegant articles in use by Europeans, such as card cases, cabinets, desks, &c., and, considering the amount of labour expended on the work, at a very cheap rate.

Furniture.—The articles of furniture in the museum are illustrations of boldness in design and ingenuity in the workmanship. As carvings (in the black wood of India, *Dalbergia latifolia*) they are extremely elaborate, but frequeutly not adapted for ordinary use. With less profuse decoration, better framework, and a judicious use of the mushroos or figured silks of India, a class of furniture could probably be produced which, while retaining sufficient evidence of its manufacture, would better satisfy European ideas of comfort and convenience.

Carvings in Ivory.—The ivory carvings of China are well known for their minuteness of finish; but the specimens from India (those from Berhampore and Travancore especially) are probably not excelled as examples of sculpture in this material. The collection is numerous, and assumes a variety of forms—a prominent example being a mythological subject in which the goddess Durga and the lion Ràma and his attendants, Ganesa the god of wisdom, and other Hindu deities, are represented.

In the north-eastern districts of Madras ivory is largely employed in the manufacture of jewel cases, work boxes, &c., as will be observed by the variety of the articles exhibited.

Horn, Tortoiseshell, and Porcupine Quills are also brought into similar use, especially in Vizagapatam, whilst in many instances a judicious combination of the materials is effected.

Inlaid Work.—This kind of work is now chiefly carried on at Bombay and Surat. The original place of manufacture appears to have been Shiraz, in Persia, whence it was introduced into Sind about eighty years ago, and twenty years later into Bombay, where there are now about fifty manufacturers. The materials employed are thin slips or rods of ivory, tin, sappan wood, ebony, and dyed horn. These, so arranged as to form various patterns, are bound in lengths, from the ends of which sections are sliced off as required. The veneer, formed by a combination of these patterns, is fixed to the surface of the article ornamented by means of Ahmedabad glue, which is preferred to all others for its superior adhesive properties.

Some of the articles in the museum are beautiful examples of this peculiar kind of work. The series includes specimens from Bombay and Surat.

JAPANNED OR LACQUERED WORK, including TURNERY.—The examples of this work are numerous, and include bowls, boxes, vases, candlesticks, pen-cases, and a variety of other useful articles. The ornamentation of these specimens is excellent, the colouring being rich and the designs highly suggestive to the European decorator. The most superior specimens are those from Sirinugger in Cashmere, Lahore, Meerut, and other localities in Northern India.

BIDRI WARE.—An excellent collection of utensils of this ware is exhibited. The term "Bidri" is derived from Bider, a city about 60 miles to the north-west of Hyderabad, in the Deccan. In this manufacture, as in all instances where the effect is produced by native design, the ornamental decoration is remarkably excellent, and the general outline graceful in shape. The specimens include goglets or water bottles, hookah-stands, and other articles of a vase-like character for domestic and ornamental use.

COPPER AND BRASS WARE.—A large number of vessels in brass and copper also illustrates the fact that the natural good taste of the native artisan seldom if ever produces forms offensive to the eye. In the most insignificant culinary vessel, however roughly finished, the same graceful outline is as observable as in the silver or golden perfume-holder.

CUTLERY.—The few native articles of cutlery, deposited in the Mineral Room, consist of knives and forks, scissors, razors, and betel cutters, the last named being in general use for slicing the betel nut for mastication. The specimens do not call for special notice, but the best examples are probably from Salem in Madras, the rest are from Assam, Delhi, Cashmere, Mirzapore, Sind, Sattara, the Deccan, Trichinopoly, &c.

ARMS AND ARMOUR.—The superb collection of arms and armour in the museum affords further evidence of the fact that, as a rule, whatever may be the object selected for decoration by the native artist, exquisite taste and consistency of design regulate even the most elaborate ornamentation.

The native courts of India have from time immemorial been celebrated for the regal splendour of their appointments.

Besides the objects of historic interest previously alluded to, such as Tippoo's armour and Sivaji's murderous "Bagh nakh," or tiger's claw, there is a sumptuous collection of richly adorned weapons. Of swords, some of them are of the finest Damascus steel, the hilts and scabbards glowing with pure gold, enamel, and precious stones. Daggers ingeniously constructed to pierce, and inject poison, and others that wound with a multiplicity of blades. There are matchlocks from the Punjab, Afghanistan, Persia, Sind, Beloochistan, &c., some of them with barrels and stocks profusely ornamented.

There are also some fair copies of English musketry from Nepal, and a remarkable instance of the early application in Central India of the revolver principle to a matchlock made at Indore more than a century ago. This collection of Oriental weapons is, without doubt,

the finest in Europe, and, as well as being attractive to the general visitor, offers valuable suggestions to the art manufacturer.

JEWELLERY AND WORKS IN GOLD AND SILVER.—The enamels of Jeypore and Indore, and other cities of Central India, still excite the admiration of the best European connoisseurs. The process is a secret among certain families of the workers, and descends from father to son. Almost all articles of jewellery from the interior states are thus enamelled on the reverse. The skill of the native lapidary and stone-setter is, however, very imperfect, and contrasts unfavourably with the manual dexterity of the gold and silver filigree worker of Delhi and Cuttack. In the Museum are some beautiful examples of this work. It is chiefly executed by children, and is remarkably cheap.

The collection also comprises a large number of the various ornaments with which the natives so profusely deck themselves, from the bandlet of enamels and jewels that encircle the head to the massive and clumsy silver rings which encumber the ankle and toes, and add their quota to the bullion-drain from Europe.

In the collection are some curious examples of *glass inlaid with gold*, applied to articles of personal decoration, such as necklaces, brooches, ear-rings, &c., of forms intended to suit the taste of European customers.

The specimens of "Koftgari" work, or *steel inlaid with gold*, are interesting as showing a modern application of native art to the adornment of articles of peaceful commerce, instead of to arms, the manufacture of which since the Mutiny has been generally discouraged.

We come now to, commercially, the most important class of all, viz., TEXTILE MANUFACTURES. Not the least noticeable features of the Exhibitions of 1851 and 1862 were the magnificent groups of Indian manufactures which demonstrated so lucidly the fact that native art could trace the chastest design, and patience and manual skill produce the most delicate of textures. Here we can only afford space to indicate the more prominent sets of examples.

Amongst the collection the noted *muslins* of Dacca attract attention. These delicate textures, locally called "shabnam," evening dew; "abrowan," running water, &c., were formerly chiefly in request for the royal wardrobe of Delhi. The demand for them has now almost died away, but they are still made to order and, it is believed, of equal fineness. Beautiful specimens of muslins from Kurnool, South Arcot, &c., are also exhibited.

Plain cotton goods of different qualities and in various forms are produced in every district in India. The collection in the Museum comprises calicoes glazed and unglazed, table-cloths, diapers, napkins, d'oyleys, towellings, sheetings, canvas, and a variety of the scarf-like pieces worn as garments by all classes. The Indian cotton goods forwarded to the Exhibition of 1862 from Madras, Bombay, and the jails in the North-West Provinces, attracted considerable attention; and although the power-loom is gradually asserting its superiority, the exports and inland consumption of Indian manufactured cottons are still very far from insignificant.

SILK PIECE GOODS of excellent quality produced in Northern India, Burdwan, Malda, &c., are shown. In the North-west, the prin-

cipal places of manufacture are Peshawur, Lahore, Umritsur, Mooltan, and the capital of the neighbouring state of Bhawulpore. The silks of the latter place are considered best, and next, those of Mooltan. The raw material is principally obtained from the countries north of India, Bokhara and other localities between the north-east frontier and the Caspian, and is sent through Umritsur. The manufacture is, however, largely carried on in other parts of the country.

The best Tussurs are from Beerbhoom, Bhaugulpore, Burdwan, and Cuttack. The Moonga, Eria, and Mezankooree fabrics are chiefly from Assam, where each householder manufactures his own cloth—even to the reeling and spinning—the holiday attire of the Assamese being usually silk.

Embroideries.—The specimens of loom embroidery, in which gold or silver wire is the decorative material employed, are numerous, and merit the admiration expressed by competent judges. Of these the Kincobs of Benares, Surat, and Ahmedabad, and the less massive, but elegant productions of Agra, Delhi, and Dacca, are well known as being among the finest examples of the kind.

Of embroidery with the needle on velvet, cloth, cotton, &c., the most admirable are those in floss silks of colours from Sind; the Madras work with the beetle-wing introduced into the design, and the Calcutta "Chickun" needlework on muslin or country silks, such as "Tussur," &c.

Cashmere Shawls.—Some of the shawls exhibited are of the most valuable kind produced by the looms of the valley of Cashmere. The manufacture is now largely carried on at Umritsur and Loodianah, in the Punjab; but the productions are not yet so valuable as the true Cashmere; it being difficult to procure the "Pushum," or best kind of Thibetan goat's wool. This material is closely monopolized by the Cashmerians, and this has led to its adulteration with a poorer kind of wool from Kirman, in the south of Persia. Although objections were taken to the quality of the wool employed, yet with respect to the skill of the manufacturers of the shawls shown in the Indian Department of the Exhibition of 1862, the Jury stated that their productions were unquestionably pre-eminent in artistic design, perfection of colouring, and high-art weaving.

Carpets, Rugs, &c.—Leave the design in the hands of the native carpet or rug weaver, and he will do credit to his own skill and please his customers' taste. Attempt to Anglicise his patterns and failure ensues. This was well illustrated at the Exhibition of 1862, where, conspicuous among excellent designs, hung a carpet in which the English rose formed the pattern, but distorted almost beyond recognition. Carpets of any considerable size are made principally in the North-west and in Madras; but rugs are produced in every district, Suttringees or cotton rugs being used by every one throughout India. The specimens in the Museum give a good notion of these articles, as well as of the finer rugs from Tanjore, Mysore, Hyderabad, &c., in which the workmanship and blending of the colours employed are admirable.

The above merely indicate the more important groups of Indian textile manufacture exhibited in this museum. The collection, however,

as shown, is far from exhausted, space admitting of a certain number only of examples from its stores being exposed to view. These have been selected chiefly from the more elaborate productions, and are well calculated to gratify the eye of the visitor and to impress him with respect for native taste and ingenuity. Not only on account of the originality and excellence of the design are the textile manufactures of India of interest generally, but they are importantly suggestive to the manufacturer, indicating, as they do, the patterns as well as the kind of materials which it is essential to imitate, in order to extend the commercial relations between the two countries; to increase our exports from this side; to diminish the drain in bullion; and, at the same time, benefit the people themselves.

With this object, the ample stores belonging to the museum are being turned to account in the way of furnishing specimens to the chief seats of commerce in this country. By this means the benefits accruing from the existence of an institution of this description become extended; and as it is not intended to confine such distribution to manufactures alone, attention, in the districts specially interested, will be attracted to the other productions of India available for commerce.

In the first instance, however, time and labour have been devoted to the preparation of a series of volumes, each set of which contains upwards of 700 practical examples of textiles manufactured in different parts of India.

This work, which has already occupied considerable time, will be presented by the Secretary of State to such selected places as, through their authorities, have undertaken to provide for the due protection of, and access to, the collection; and, as it is intended that these volumes should be followed by specimens of such Indian products as are either now or likely hereafter to become of commercial importance, it is anticipated that this effort on the part of the Indian Government to extend a knowledge of the manufactures and products of the territories under its control, will be the means of establishing really practical trade museums in certain important districts now devoid of any such aid to their commercial progress.

The stores of the museum further afford the means of occasionally sending out *loan* collections. India was thus represented at Dublin in 1853, and at Manchester and Edinburgh in 1857. In the Exhibition to be held in the last-named city in May next, it is proposed again to draw the Indian representative collection from the same source; and an excellent assortment has already been despatched to render intelligent service to the colonists of New Zealand, at their Exhibition, to be opened at Dunedin in January next.

In the foregoing account we have incidentally specified some of the ways in which the museum is being turned to practical account, as an adjunct to the Department of the Reporter on the Products of India, whose functions may be briefly stated as follows, viz.:—To act as Government referee in all questions connected with Indian products; to answer inquiries from persons in this country, and in India, practically interested in such subjects; to obtain the opinions of brokers and others as to the value of such products as are constantly sent to the Department; to ascertain the properties of such by having them

submitted to chemical examination, or otherwise practically tested by the manufacturer specially interested in their employment; and lastly, not only to thus obtain, but also to diffuse, information respecting all materials, whether raw or manufactured, likely to affect the commercial interests of the two countries.

In addition to the above, another duty is the introduction and interchange generally of useful seeds and plants, an effort which is aided by the liberality of the Peninsular and Oriental Company, in conveying these at a largely diminished rate of freight. Having thus indicated the purposes for which this important Department has been instituted, and having, in the foregoing pages, glanced at the museum as calculated to aid in extending the trade between the two countries, and in imparting to the public a knowledge of the inhabitants and resources of India, we would venture, in conclusion, to make a few remarks respecting the ultimate disposal of the collection.

We have already stated that the capacity of Fife House appears to have been judiciously utilized for the purposes of the museum; but, in the present building, the limited space available renders it impossible to produce a thoroughly effective arrangement, or even to exhibit many articles now deposited in its stores.

We are of opinion that, not merely on account of the practical objects which it advances, but also because it tends to encourage the growing interest felt by the public in matters relating to India and its people—exciting our admiration for their works, sympathy for their condition, and pity for much we would fain see changed—it would clearly be for the benefit of both countries that another and more commodious home should be found or constructed for the reception of, not only this museum, but also the magnificent collection of works of Oriental literature now deposited in an equally inconvenient building in Cannon Row.

A good position could, we doubt not, be readily found; and considering that the whole collection has not, up to the present time, cost this country one sixpence, the least that *it* might be expected to give would be the site whereon to erect a suitable building.

The grounds in which Fife House stands, being the property of the Crown, would, in connection with the proposed thoroughfare from Whitehall to the Thames embankment, afford an excellent position, which we would gladly see occupied in the manner here suggested; for, independently of the advantages which we have already indicated, as accruing from the existence of this museum, we are satisfied that it would prove a source of gratification to the princes and people of India, to know that the literature, works of skill, and productions of their country, are adequately represented in the capital of Britain.

NOTE.—The public are admitted, free, to the Museum, between the hours of ten and four, on Mondays, Wednesdays, and Fridays; and on Thursdays, by cards obtainable from Members of the Council of India, or heads of departments in the India Office. Forms of application are furnished at the Museum, for the use of visitors who may desire to obtain special information regarding articles of Indian production; and, for the same purpose, interviews are usually granted to persons calling between the hours of two and four P.M.

II.—RAILWAYS IN THEIR SOCIAL RELATIONS.

THERE are many points of view from which the railway system may be regarded, and none, perhaps, from which it will not present features of great importance and interest. In the 'Companion to the Almanac,' account has from time to time been given of the formation of new lines, their engineering character and scientific qualities, and of the extent and general connection of railways already in operation. Our present purpose is to glance at them in their more familiar social aspect, and to notice especially some of their more or less direct bearings on the habits and circumstances of the humbler classes.

Complaints have of late been many and loud against railway extension and railway legislation, as well as against railway directors and railway management. Nor is there anything surprising in this. Railways have become a great power in the state; and the power has been sometimes abused. You cannot, in a country like this, have a gross capital of nearly 500 millions, an annual income of more than 31 millions, and an expenditure of fifteen millions, without those who control it all possessing vast influence: and it is not in corporate nature always to wield its influence aright. The "railway interest," were it united, might indeed, some day become an almost intolerable despotism. As it is, where the general body is concerned, it exerts a pressure even on the legislature which it is difficult to resist. Happily, in particular instances, there is opposition instead of community of interest. Happily, we say, for so great and even oppressive are the powers granted by a Railway Act—so seriously do they interfere with private rights, and often with public interests, and so helpless in most cases are the parties affected by them—that it must be regarded as fortunate for the public, whose interests seldom find other than casual, languid, and heedless guardians, that every new project meets with keen, dogged, and not over-scrupulous opponents in those already in possession or struggling for it. So sturdily is the battle fought between the rival companies, that a thorough scrutiny of the measure is inevitable, though the result is still too often determined by relative influence and tenacity of purpose, or, as it would occasionally appear to be, by caprice.

Beyond all question, railway extension has been an incalculable benefit to this country, and in a measure, therefore, to every individual. But it by no means follows that the public benefit is intended by the promoters of any particular line. As the rule, railways are projected for individual gain. They are schemes concocted by solicitors, engineers, contractors, and speculators in shares, and these, let the scheme turn out how it may, are pretty sure to profit by it. This is a state of things which justifies the most rigorous investigation of every new project, and a jealous watchfulness of the powers sought to be obtained for it. Had this watchfulness been commonly exercised, even with ordinary sagacity, both shareholders and the public would have been saved from much loss and vexation, however it might have fared with those who have usually been the chief pecuniary gainers by the formation of railways. Chairmen of railway companies are pathetic at

the annual meetings on the suspicion with which their proposals are received, and the little credit that is given to their good intentions; but for the general interest it is to be hoped that the vigilance of their critics will rather increase than subside.

According to a return made to the House of Commons in the past session, there were 12,322 miles of railway open in the United Kingdom on the 31st of December, 1863. During the year there had been an increase of 771 miles. The increase in 1862 was 682 miles; in 1861 it was only 466 miles, and that was a very large increase on 1860. So that notwithstanding the great length of railways open, not only does there not seem to be any falling off in the length of new lines in course of construction, as might at first sight seem the natural tendency, but a very great and continuous increase. Nor is there for a very long period, likely to be any check in the rate of progress, unless as the result of commercial adversity. In the session just closed, no fewer than 296 railway bills were brought before Parliament (without reckoning such as were entitled railway bills, but related to steam-boats and other extraneous subjects), and of these 201 became law. Here, at any rate, is a sufficient supply for some time to come; and it is only necessary to examine the character of the schemes projected within the last few years, to observe the tactics of railway companies, to study a railway map of the country in detail, and to recollect the interest which railway projectors, engineers, and contractors have in the formation of new lines, to be convinced that there is an ample field as yet unworked, and that it will not be left uncultivated.

A first and evident consequence of this vast and continuous formation of new lines is the displacement of the labouring population. This is of course felt most where a line approaches or enters a great town; and the caution with which the earlier engineers and directors kept to the outskirts of our cities, is far from being shared by their successors, who strike at once for the most central point. In London, as might be expected, this is most forcibly exemplified. New lines are proposed to be brought into the very heart of the metropolis from every side, and the old lines to be carried forward to more central termini. For this, the main streets are to be pierced through and through in every direction; parks, squares, and every open place to be invaded; and even so much of the bed of the Thames as is reclaimed by the Thames Embankment is demanded for railway use. The projects put forward in 1863 so startled the Londoners by their extent and daring, that a strong feeling of opposition was aroused, and the majority were summarily rejected. But 1864 saw a fresh and larger crop. "The schemes proposed for the metropolis this session," says Mr. Bazalgette, the engineer to the Metropolitan Board of Works, in his official Report, February, 1864, "are more numerous, bolder, and more complicated than on any previous occasion. They involve the construction of 258 new lines of railway and branches, of 417½ miles in length; with eleven bridges over the Thames, and two lines passing through the Thames Tunnel, and the total capital proposed to be raised is about seventy millions."

Many of these were, of course, competing lines, and several were

so outrageous as scarcely to bear the most superficial examination. Only a comparatively small number passed safely through both Houses. Yet the result is that twenty-six Acts were obtained in 1864 for new railways in the Metropolitan District, involving the construction of 130 miles of new lines (about seventy miles lying within the somewhat limited area defined by the House of Lords' Committee as "the Metropolis Railways District"). Except in suburban localities, and in the underground railways, these new lines will traverse, for the most part, densely populated neighbourhoods; and, as from economic considerations the route chosen is as much as possible through poor localities, the destruction of dwellings will necessarily most affect the labouring and poorest classes. How enormous this destruction of small houses for railway purposes is, can only be really understood by watching the progress of a metropolitan line in course of formation. For example, the North London Railway is being shortened by the construction of a new line from Kingsland to Finsbury. For some part of the way it is carried through a wretchedly poor and miserable neighbourhood; for the remainder, the houses are respectable but small. Now for this line, about four and a half miles long, over 900 houses have been pulled down. This year the Great Eastern has obtained an Act for a longer but almost parallel line running through the same quarter of London, and having its terminus alongside that of the North London, and though much of the ground traversed is less built over, it can hardly be supposed, considering its greater length, that it will demolish a very much smaller number of houses. Extend this rate of destruction to all the lines that have recently been constructed in the metropolis, to those which are in progress, and to those for which Acts have been obtained in the past session, and some conception may be formed of the extent to which the displacement of the population is going on.

It has been argued by a high authority (the President of the Institution of Civil Engineers, in his Annual Address, 1864), that "this destruction of property . . . . is only a change of occupation, and that the houses pulled down will, in many cases, be much better restored, in accordance with modern sanitary improvements, or the sites will be applied to more profitable uses, tending to the general improvement of the metropolis, the convenience of the public, the relief from local taxation, and the better occupation of the working classes."

This is no doubt true in a measure (not wholly however),—and the reasoning is, perhaps, sound, regarding the matter merely as a question of political economy. But though the sites of the houses destroyed may be applied to more profitable uses, and the convenience of the public be promoted, there remains the very serious fact that thousands of the poorer classes are driven from their homes. The suffering, of course, does not fall exclusively on the poor. Though it is upon them that the destruction of house property presses most heavily, it would be unjust in considering the question of railway extension, to ignore the great inconvenience and often serious loss which enforced removal inflicts on the classes above them. It is no light thing for a person who has established a business in a situation specially fitted for it, to be compelled to remove at a few weeks'

notice, whether he can find another place equally suitable or not; and it is often exceedingly unpleasant, to say the least, for a private individual to be unceremoniously thrust out of a house to which he has become attached, and which he cherishes with the complacency an Englishman is proverbially supposed to feel for his "castle." These, however, are private evils that must be borne for the public good; and the sufferer, conscious that the old saw that "an Englishman's house is his castle," if it were ever true, is true no longer, grumbles but acquiesces. Men of business may find, though often not without much trouble, other offices, shops, or warehouses, to which they can remove; and they obtain compensation for the loss and inconvenience they sustain. So it is also with the ordinary upper and middle class householder. But for the monthly or weekly tenant there is no compensation. Whatever compensation is paid, is paid to the landlord. The tenant must seek a new home at the time that numbers of his neighbours are in a like strait, and he must find it somewhere at hand. The superior workman may reside at a moderate distance, but the ordinary labourer, whether artizan or porter, day labourer, or casual hand, cannot live far from the scene of his usual occupation. New houses of a humble description are not built in anything like proportion to the number destroyed, partly because, from the increasing scarcity and value of land, it is extremely difficult to find convenient sites for them, but mainly because it is more profitable to erect houses of a better class. It follows, therefore, that as there are fewer houses than tenants, the rents rise; more persons have to herd together in one of these small houses, or a larger house is taken, and subdivided into small tenements. In any case, there results overcrowding, with all its appalling array of moral and physical evil. It would be idle to shut one's eyes to these consequences of railway extension in towns. They are pressing heavily on all grades of our labouring population, and most heavily on the poorest and most helpless, and the mischief is one of growing magnitude. Railway extension is indeed but an element in the production of the mischief. The rapid growth of the population of London is the main cause: the removal of small houses for the erection of public buildings, warehouses, and offices, and for the formation of new streets and other public improvements, is an important subsidiary, but the railway works act in a more wholesale and summary manner, and their effects are more widely and immediately felt.

How to meet the evil is a question of extreme difficulty. Something will be effected by the various benevolent schemes for providing "dwellings for the working classes." Some benefit will be derived from the action of Lord Derby's clause, rendering it compulsory on companies asking for new powers of extension within the metropolis, to run morning and evening trains for workmen to stations just outside London at an extremely low rate. These are only slight palliatives, but no better have hitherto been suggested. The evil in its magnitude remains untouched. All that can be hoped for, till some sufficient remedy is provided, is that the evil may not be increased in the coming years by a too ready acquiescence in reckless schemes.

A statement immediately following that above quoted from Mr. Bazalgette's Report points to another source of mischief connected

with metropolitan railway extension, which though of less urgent consequence, it behoves the public as well as the legislature not to lose sight of. By the projects of 1864, he says, "Hyde Park, the Green Park, St. James's Park, Kensington Gardens, Newington Park, Hackney Downs, Leyton Grange Park, Trinity Square, Finsbury Circus, Camden Square, Oakley Square, Ampthill Square, Euston Square and Sloane Square, would all be cut through, and some of them in two or three places, and the same would be the fate of the following commons:—Stoke Newington, Clapham, Tooting (invaded by seven different lines), Acton Back, Acton, Wimbledon, Fulham and Deptford; and Turnham Green."

The squares and parks have been termed, not unaptly, the lungs of the metropolis. Inroads upon them, like these, must, if allowed, have somewhat seriously interfered with their healthy action, and a few more such attacks might have been fatal. The previous year several railway projects were brought forward, which would have materially damaged the metropolitan parks and squares, but were ignominiously rejected. But as the passage above quoted shows, however strong may be the feeling excited in any particular instance, and however thorough the discomfiture, the attack will be repeated, and probably in the expectation that on this or another occasion, some slackening of vigilance may afford success.

Here at least the plea of public convenience is insufficient, and it is a mere trick of words to talk of the ground being applied to more profitable uses, or of exchanging reproductive for unproductive works. The inhabitants of cities like London, Liverpool, and Manchester, have acquired by long usage something like a vested right in all such open spaces as remain; and they have a vital interest in maintaining them intact, seeing how unceasingly layer upon layer is being added to the dense belt of bricks and mortar which encircles them, and the breath of green fields driven farther and farther off. That such open spaces are essential to the health of the inhabitants—a matter of primary importance—would fully justify the making of a general provision that whenever any encroachment was proposed to be made on an open place within a town, a sufficient substitute should be provided. There need be no fear that this would check railway enterprise. If there were such a standing clause it would so stimulate engineering ingenuity that the necessity would be avoided, or, as in the case of Finsbury Circus, some compromise be made which would convert the inroad into an improvement.

But restriction, prevision, and even supervision might very well be carried a little farther—so far at least, let us say, as to guard against unnecessary disfigurement of our cities, and especially of our chief city, always perhaps a little lacking in the article of beauty, and already suffering somewhat from the effect of years and rough usage. It would not do to interfere too much with the liberty of the subject,—even when that subject is a corporation, and one which interferes very freely and without any compunction with the liberty, or at any rate with the property and plans, of individuals, and the question is one of taste, in which corporations are notoriously prone to go astray—but surely there might with safety be sufficient power lodged some-

where to prevent the railway engineer from setting up a large and hideous iron viaduct in front of a building like St. Paul's, or erecting others in a great thoroughfare of such previously unimagined ugliness as the prodigious structures on the south side of London Bridge, and elsewhere. Who knows but that some day another Cubitt will put an iron tube along the front of Westminster Abbey or the British Museum, or even hide from us the charming façade of the National Gallery? But the evils of interference? Interference with individual freedom of action is undoubtedly a thing to be avoided wherever possible; but there can hardly be a question as to the right, hardly as to the desirableness, of there being vested somewhere (if we could only tell where), such a power of control as should prevent new works of a public character being made a disfigurement, if they cannot be made an embellishment, of the capital. And in this case, at least, interference would cause no insuperable difficulty. Engineers have but to be told that they must accomplish any given end, and they will be sure to do it. They might not indeed produce a beautiful design; for Beauty is a goddess who seldom blesses the vision of a railway engineer. But they might be kept from the production of such heart-sickening abominations as now obtrude their deformities on the wayfarer at almost every turn.

And if we cannot get beauty we might get use. In last year's Companion (article "Public Improvements") it was suggested that the blank ugliness of the iron street viaducts would be mitigated, and the public convenience and safety promoted, by its being made imperative that all railway bridges carried across the more crowed thoroughfares, should have pathways at their sides, for the free use of foot-passengers, as is to be done at the Ludgate viaduct. Might not the suggestion be usefully extended a little? The footpath outside the Charing Cross bridge shows that more than anything else is such an addition likely to improve the appearance of this kind of structure. Now why should not railway companies, whenever in future they propose to cross a broad river, be made to add a free footway to their bridge? It would increase but little the cost of construction, and that increase they might fairly be called upon to pay for the concession of so much of a public right as is involved in the property of the river; whilst the convenience to the public would be unquestionable. The South-Eastern Company is constructing a bridge across the Thames, midway between the London and Southwark bridges; one can hardly conceive a greater service of its kind than such a means of relieving London Bridge of some portion of the superabundant stream of foot-passengers for ever flowing over it.

We have put forward two or three palpable evils; but as compared with the benefits, the evils arising from railway extension are after all small, and they are, we may hope, remediable: the good is vast and lasting. In the recent wonderful commercial advance of the country in the development of its mineral and manufacturing resources, and in its general material progress, there can be no doubt that railways have played a foremost part. As a favourable field for investment, they have been a boon to a large section of the upper and middle

classes. By their immense works, and enormous and regular circulation of capital, they have opened new and profitable fields of labour to employers and workmen of every grade, and stimulated in a thousand ways economical and industrial energy. These are considerations, however, which rather belong to a higher and wider branch of the subject than that we have to speak of, and it is enough to make this passing allusion to them.

More directly concerning the matter in hand, as affecting the condition and habits of the people, are the facilities afforded by railways for moving about. Everybody travels now, whether he has business or not. Travelling is eminently a passion that grows by what it feeds on. However rapidly the facilities for locomotion are increased, the number of travellers seems to increase in even a greater proportion. In 1862 the total number of passengers in the United Kingdom was 180,429,071. In 1863 it was 204,635,075; an increase of over 24 millions, though 1862 was the year of the Great Exhibition, and, as might be supposed, an exceptional year. In other words, while the increase of mileage in operation in 1863 was somewhat less than one-fifteenth over that of 1862, the increase of passengers was considerably above one-seventh. The eagerness with which any new railway facilities are seized is strikingly displayed by the fact that the average number of passengers by the Metropolitan Railway during the year (it was opened in January, 1863) was 21,000 daily, and during the first six months of 1864 about 28,000 daily. Again, the opening of the London, Chatham, and Dover Railway, from the Elephant and Castle to the new station at the south side of Blackfriar's Bridge, "was immediately followed," say the directors in their last half-yearly report, "by a very large extension of traffic, both upon the Metropolitan extension lines, and upon the lines of the general undertaking. The number of passengers passing in and out of the Blackfriars' station since its opening has averaged considerably over 60,000 per week," and the directors reckon confidently on a proportionably large increase when the line is carried forward to the central terminus at the foot of Ludgate Hill.

If we look a little more closely into this enormous traffic, as thanks to the very full and minute returns of the Board of Trade we readily can, we shall find some curious and not uninstructive information. Of the 204½ millions of passengers who travelled by railway in the United Kingdom in 1863, somewhat over twenty-six millions (26,086,008) were first class; fifty-seven and a half millions (57,476,669) second class; and above one hundred and twenty-one millions (121,072,398) third class. The increase in the respective classes during the year was nearly three millions (2,980,657) first class; five and a half millions (5,607,430) second class; and sixteen and a half millions (16,617,917) third class—a remarkable proof, not only of the great numerical preponderance of third-class passengers, but of their relative increase: that of the first class being 12·90 per cent; of the second class 10·81; and of the third class 14·81 per cent. The third-class passengers in 1863 exceeded by very nearly nineteen millions the passengers of all classes conveyed by railway in 1853. The passengers of all classes had almost exactly doubled in these ten

years, being 102,296,659, in 1853, and as already said, 204,635,075 in 1863 : the length of railways in operation had increased 4,678 miles or little more than a half.

By a comparison of the passenger traffic of the three kingdoms, some suggestive differences are brought out. As might be expected the Irishman travels least, the Englishman most. The total number of passengers in England and Wales during 1863 was one hundred and seventy-three and a half millions (173,605,485); in Scotland nineteen and a half millions (19,567,399); and in Ireland not quite eleven and a half millions (11,462,191). This gives in England and Wales (and Wales must tend to keep down the average,) eight and a half journeys in the year for every individual of the population; in Scotland six and a half; and in Ireland only two: the number of miles in operation being in England and Wales 8,568, in Scotland 2,013, and in Ireland 1,741. But not only is there less travelling in Ireland, but of what there is, much less proportionately is third class; whilst in Scotland third-class passengers form by far the largest proportion. Thus, whilst in Scotland third-class passengers were 76·15 per cent. of the whole, in Ireland, where we might have looked for most, they were only 55·44 per cent. But it is still more singular that the proportion of first-class passengers was highest in Ireland, 14·32, and lowest in England, 12·67 ; whilst the proportion of second-class passengers was by far the lowest in Scotland, 10·73 per cent, it being again highest in Ireland, 31·24, and in England 29·84 per cent. Doubtless these seeming anomalies are explicable by a consideration of the condition of the respective countries, and the character of the people. It may be that Ireland being a poor country, her peasantry can afford to travel but seldom, whilst the middle class and gentry would probably think the third-class car beneath them. The thifty middle-class Scot, on the other hand, prefers the cheapest ride; and hence whilst one in three of the passengers travel second class by the Irish railways, only about one in ten travel second class in Scotland. The reader can pursue the comparison for himself if he pleases.

That all this travelling must have a great influence on the habits, occupations, and tastes of the labouring population, is too plain to admit of doubt. The skilled artisan is no longer tied, even in his hours of labour, to the immediate vicinity of his home. If employment fails in one town, he can turn readily to another. If he find temporary employment at a distance, he need neither remove his family nor break up his home, nor altogether lose its comforts. If he is too far off to return home every evening, he can, at a trifling cost, spend his Saturday night and his Sunday at home. On some lines, where large operations are being carried on at country places which require town workmen (as on the South-Eastern at Wellington College, Blackwater, and Gomshall), there are special Saturday evening "cheap tickets, *for workmen*," available for return either on Sunday night or Monday morning. We have witnessed the very considerable extent to which these trains are made use of, and occasionally travelled by them, enjoying the bright, intelligent talk of the men, full of appreciation of the scenery they have been amongst, and

carrying home their pockets or baskets stored with apples or hedge-nuts for the children, and a large nosegay for "the mistress'—fruit and fragrance of their week in the country.

The agricultural labourer is also, in his measure, reaping the benefit of the railway. Everywhere you see them making use of the line. Some even go to their work by rail—all travel by it to market. The past generation of field-labourers seldom stirred far from the parish in which they were born. The next generation will probably be as familiar with every place within a moderate journey by rail, as the artisan now is with neighbouring towns. Travelling with strangers of all grades of intelligence, and visiting new places, cannot but enlarge their ideas and develop wants. The strength and enterprise thus conferred on the agricultural labourer will, probably, be very great. He will feel that he is not bound to the soil. Already the temptations of employments, for which there is a great demand for hands, contractors' work on railways, brick-making, and like occupations requiring strength and endurance rather than skill, with their higher wages and freer habits, prove irresistible to many of the young and sturdy; and field-labourers in consequence are absolutely decreasing in number. As this goes on, the labourer will soon begin to find that his labour is of higher value, and that the railway enables him readily to offer it in the best market. Steam culture and improved implements will be called more and more into requisition by the farmer; but if he requires fewer men he will look for more intelligence in those he hires and be prepared to pay a better price for it. The different influences will act and react on each other; but we may safely predict that agricultural labourers, if they are eventually a somewhat less numerous, will be a more self-reliant and intelligent body. Who will question the benefit which may be thus conferred on the labouring classes, or fail to see how widely the effects may extend?

But railways not only permit the artisan to undertake a job at twenty or thirty miles from his residence, and yet be able to return there at brief and regular intervals—they seem likely, increasingly, to enable him to fix his home in a healthier atmosphere. The merchant, the banker, or the wealthy trader, has long forsaken London as a place of abode, secure of being brought by railway every morning, with little loss of time and less fatigue, almost to his office door, and carried back in the afternoon to dinner in his comfortable country dwelling. About the pleasant hills of Surrey and Kent, in almost every attractive spot in Herts or Essex, Middlesex, Berks, or Bucks, are seen the mansion or the villa of the man of business; and, in less pretentious form, the villas and cottages of tradesman or clerk, cluster around every station within twelve or fifteen miles of the great city, and in many instances, new villages and "parks" of genteel abodes have sprung up with mushroom speed, and fungus-like aspect, almost as soon as a new line has been opened. But as yet, the workman has seldom fixed his dwelling beyond the range of a walk, or at most, a cheap omnibus ride. Lord Derby's clause, already referred to, is intended to enable the workman to live out of town, and, if enterprising landowners will only build suitable houses, it will probably in a great measure effect its purpose. Of course it will only apply to

new undertakings. How it will operate will be best illustrated by an example. The Great Eastern Company have obtained an Act for extending their line to Finsbury. It contains a clause by which they "undertake to run a train from Edmonton and Walthamstow to the Liverpool-street station every morning before seven o'clock, and back again every evening at six o'clock, as may be most convenient for artisans, mechanics, and labourers, at a charge not above one penny per journey; but they are not to be compelled to issue such tickets for a less period than one week, nor without reasonable satisfaction that the applicants are of the working class, for which they may demand name and address both of applicant and employer; and in case of accident the company are not to be liable to any claim for compensation for injury to passengers beyond 100*l*."

The Metropolitan Railway is running trains of this kind to Paddington, and carries about 4,000 passengers by them weekly. Whether by this, or any other plans, railways will help materially to rid the city of some of its overcrowding it is hardly possible even to conjecture: certainly it will not fully answer the end in view, without a good deal more of flexibility as to the hours of running the trains both in the morning and evening, and without frank co-operation on the part of landowners and builders in providing suitable and low-rented houses in the localities to which these cheap trains run.

Among the social benefits conferred by railway extension, one of the greatest is that of placing a country holiday within the reach of almost every townsman. It matters not whether he wish to turn inland or towards the sea, to spend a few hours among the glades of Windsor Forest, or loiter for a day or two at Brighton; climb the hills of Malvern, or the mountains of Wales, or recall the memories of ancient days as he saunters about the quadrangles of Oxford or Cambridge; the ordinary tourist return tickets will enable him to do so at a comparatively small cost.

The expansion of the Excursion Train system has been something marvellous. Day excursions have this summer been more numerous and varied than probably ever before. To many pleasant spots there are *daily* cheap excursions (as to Epping Forest by the Great Eastern for a shilling, to Windsor by the Great Western, or South-Western, for half-a-crown); while for every watering place within sixty or eighty miles, there have been, every Sunday and Monday, trains at surprisingly low rates—to Herne Bay, Southend, or Harwich, for half-a-crown, and on special occasions for even less. Thus, one day in September, three or four trains ran on the London, Chatham, and Dover railway, to Herne Bay and back for 1*s*. 6*d*., including admission to a series of "entertainments" at that very lively place. To Brighton, the fare was 3*s*.; Margate, Ramsgate, Hastings, Dover, Portsmouth, 3*s*. 6*d*. or 4*s*. 6*d*.—nay, even for the Cockney who wished to see something of the Continent, and had but a day to spend on the expedition, the London, Chatham, and Dover, and the South-Eastern companies made provision. They undertook to carry him to Calais and back, or if he preferred it, to Boulogne, and allow him some hours there to gain a little insight into foreign habits and French cookery, for the very reasonable sum of three half-crowns. Day trains also ran frequently

to such tempting spots as Sevenoaks and Canterbury, Ipswich and Harwich, Cheltenham and Cirencester, Cambridge and Oxford, and many another spot of equal beauty or interest. And this system was not confined to London. Corresponding or similar trains ran from most of the places named. Not only Manchester, Birmingham, Bristol, and other large cities, but almost every moderate-sized railway town, had its regular excursion trains; and at the village stations, all over the country, they called at least occasionally.

The weekly, fortnightly, and monthly trains take in, of course, a far wider range and are used by a different class of travellers. By them, the whole of the West and the extreme East of England; the lakes and fells of Westmoreland; the Welsh mountains; the Highlands of Scotland, and the Lakes of Killarney; the Isles of Guernsey and Jersey, Man and Wight, can be visited for a moderate sum. Trips of a fortnight or a month are offered by the Great Eastern to Holland and Belgium, by the London, Chatham, and Dover, the South-Eastern and the Brighton, to France, Switzerland, the Rhine, and Germany; and a private speculator, Mr. Cook, has gone so far as to organise a system of excursions at surprisingly low rates, to France, Switzerland, and even the "Grand Tour" of Italy, supplying guides and translators, and arranging a tariff with hotel-keepers—taking, in short, all trouble and anxiety off the minds of inexperienced tourists who do not object to travel in a crowd.

These are all good in their way, and calculated to meet the needs of a very wide class. The cheap day excursions are the most encouraged by railway directors, because they return an enormous profit at little additional cost. But there is much about them, as at present managed, that is objectionable. For real, social, every-day service, the ordinary cheap day train is probably of most value. Few know their own country as well as they ought to know it, or with how little trouble or cost some of the pleasantest parts of it may now be reached. Nothing, for example, is more surprising, in wandering about the ever-new and ever-beautiful hills and lanes of Surrey, than the small number of strangers you meet, remembering how near you are to London; yet, literally, for a few pence, and in about an hour, the Londoner can be placed by a third-class train, within an easy walk of some of the most beautiful parts of the county. The artisan can seldom afford a week-day holiday that causes the loss of a day's pay. Yet even he might do so sometimes, and here, at any rate, is the opportunity of spending it in what is emphatically "the country,"—a word musical in every townsman's ear.

Again, the railways offer a great advantage to workmen in allowing of workmen's dinners, club feasts, and the like being enjoyed by large or moderate parties at some pleasant country place, where part of the time may be agreeably and profitably spent out of doors in open-air recreation or the enjoyment of beautiful scenery. These dinner excursions are now made to a very great extent, and, occasionally, one hears of them conducted after the fashion of a large and merry picnic. One such we came upon by chance, on a brilliant afternoon in the past summer. Some five or six hundred of the *Times* establishment were partaking, with thorough zest, of their waygoose (as we

suppose they would call it, but in fact a feast that would have done Gunter no discredit) under the grand old yew-trees at Newland's Corner, two or three miles east of Guildford, one of the loveliest spots and in close proximity to one of the most glorious views in all Surrey. They had come down there by a mid-day train, and would return "when the feast was o'er," but with no unpleasant "reckoning" to spoil its digestion, by a reasonable hour in the evening.

Then look at the facilities afforded by railways for reaching the many admirable places of recreation around London. The Crystal Palace has at least a hundred trains a day running to it by the different lines; and the way in which the southern lines are now connected with the northern, renders it accessible at all times of the day, from nearly every railway station in London. Kew Gardens, too, sometimes receives in a single day its thousands of delighted visitors, who for merely the railway fare, have the free enjoyment of one of the finest gardens in Europe. So again, with Hampton Court—a third-class return ticket to which may be had for a shilling.

A source of very considerable social enjoyment is opened by the offer on most lines to "convey pic-nic or pleasure parties at reduced fares"—the rate being usually determined by the number of the party. The same arrangement is applicable for school treats, and indeed for almost every purpose where a number of persons associate to visit a particular place together and can give a few days' notice of their intention. Thus, some botanical and geological professors, and at least one society (the Geological Association), are in the habit of having an occasional distant field-day with their pupils or members—going sometimes as far as Sheerness, Oxford, Maidstone, Lewes, or Dover, or even farther. Several of the country Naturalists' clubs have their distant field-days by similar railway arrangements.

But much as is done by railways in promoting healthy, innocent, and profitable enjoyment, still more might be accomplished with a little good management. There is the Saturday half-holiday, now so general: how many young men, and old men too, must be at a loss how to spend a bright summer afternoon at once pleasantly and inexpensively, and would rejoice if they could have a run of some ten or twenty miles away from the smoke and dust of London! Now nothing would be easier than for the directors on the "pleasure lines" to attach a few third-class carriages to their Saturday afternoon trains (better still if they would attach them to *every* afternoon train) and issue with them return tickets. Nothing is more certain than that such an arrangement would grow in popularity (and consequently be increasingly profitable) in proportion as it became known.

Railway directors and managers, however, seem to hold it incumbent on them—a part of their traditional policy, on which not even a shadow of doubt is to be permitted for a moment to rest—to discourage the third-class passenger traffic as a regular part of the service. Go to almost any of the long lines in the kingdom, and you will find third-class carriages attached to very few, and on some lines to none, of the ordinary trains; and the special third-class or parliamentary trains fixed at the most inconvenient hours; the carriages made as uncomfortable and kept almost as dirty as cattle-pens; and

the passengers altogether treated with so little consideration, as to prove beyond doubt that there is a settled purpose to compel as many passengers as possible to travel by the other classes. Yet, although this policy has been steadily persevered in for so many years, it has so little succeeded, that, as we have seen, third-class passengers largely exceed in number both the other classes united, and that their proportionate increase is greater. They contribute also a larger sum to the receipts than either of the other classes. The total receipts of the Railways in the United Kingdom from first-class passengers during 1863, were 3,368,676*l.*; from second-class, 4,201,105*l.*; and from third-class, 4,933,073*l.*; or, to put it in another fashion, the first-class passengers contributed 26·24 per cent. of the receipts from passengers; second-class 32·72, and third-class 38·43 per cent. That a class of passengers, who form so large a majority of the whole, and who contribute so large a proportion of the income, should have so little regard paid to their convenience, comfort or taste, is one of those things which would be amazing, even if regarded only as a matter of commercial policy, were not the peculiarities of railway management generally inexplicable by any of the ordinary rules of judgment.

"The shrewdest railway director," says the author of "Organisation in Daily Life," "the one who will bring most grist to the mill, will be that man who, in considering the railway, makes himself most thoroughly one of the public, and learns to appreciate all the peculiar conveniences which each class travelling by the railway desires, and all the peculiar inconveniences which each class seeks to avoid." Such a man would undoubtedly be the shrewdest and most successful man of business; but such a man would find himself quite out of place at a railway board. Great private establishments, which have their customers in every class, and the greatest number among the "third class," take especial care to adapt their goods to the wants, and to study the tastes, of those from whom they draw the largest part of their income. If they did not, they would find themselves supplanted by shrewder rivals, and their own names perhaps in the *Gazette*. In the railway board there is no such direct and personal pecuniary interest, and they know that there is little danger from competition. There is small hope of improvement, therefore, from the interest, and not much perhaps from the good feeling, of the railway magnates, who, judging from the past, dwell in too sublime an atmosphere to be conscious that third-class passengers are of like passions and feelings with themselves. What they seem chiefly to dread is, that persons who, according to their notions, *ought* to travel in the first or second class, would travel in the third, if the third were made convenient as to time, and endurable as to the vehicle. Of course in all ordinary transactions, it would be enough to say that the person who pays (whether it be for goods or carriage) is the proper, and indeed the only person to determine the kind of article he will have. If he likes to have one of first or second class quality, well; but if his inclination or his means lead him to select one of an inferior grade or less genteel fashion, he has an indisputable right to do so. Railway directors alone possess and exercise a practical control over their customers' choice. They will not believe that giving to the great public perfect freedom

and means of choice, would pay best in the long run; and they are not open to moral considerations, else they might be reminded that they hold in their hands one of the most powerful instruments of social improvement, and one that, with a little judicious and generous management, might be made very effective in promoting that kindly feeling between the different classes of society which all admit to be so desirable. There is too little mingling of classes now. So far from its being a thing to be guarded against, that men of different grades of society, means, and culture, should meet together even in a railway carriage, we believe it would be a gain for all, were it a more frequent practice. Even as it is, the casual traveller in a third-class carriage seldom fails to notice the greater urbanity and gentleness of manner observable among what railway officials would regard as third-class travellers proper, as compared with the same class ten or twenty years ago. In a great measure this is, as we believe, the result of the more frequent association in their journeys with people of a somewhat higher grade; for, despite the directors, second, and even first class people *will* travel third class, even now. And, as the result of our own experience, we must say, that we have witnessed quite as much courtesy and good feeling exercised towards the well-dressed of both sexes, and listened to as shrewd and intelligent conversation in a third-class carriage, as in any average first or second class. Rude, coarse, and ill-bred fellows there are sometimes, of necessity; but even the rudest or coarsest "rough" is subdued, if he finds himself in a light, clean, and cheerful carriage, among well-behaved and intelligent people. In a close, dark, and filthy pen he takes courage, and behaves as though he were at home.

Perhaps it may be thought that too much has been said on this point. It may be so: but the question of third-class accommodation having presented itself to the writer of this paper, he has, during the last six months, in which he has had to travel much by railway, made a point of personally testing the arrangements, as far as practicable; and he states it deliberately, as the result of his experience and observation, that the third-class arrangements generally are studiously and offensively inconvenient, a disgrace to the age and the men—almost to the country. And the disgrace is the greater as far as the directors are concerned, because the remedy is so easy. It is only necessary that there should be a little *feeling* thrown into the management, and the right course would soon make itself clear. What is required is that there be clean and fairly comfortable third-class carriages attached to all but the express trains, so that third-class passengers may, like those of the higher classes, select the time most convenient to themselves, not be forced to set out at unseasonable hours, and travel in carriages which seem specially contrived to inflict the greatest possible amount of discomfort and risk. For this, very little additional outlay would be needed, except at first for a better order of carriage. It is neither luxury, nor ornament, nor any unnecessary expenditure that is wanted. All that is asked for is—convenience, with a reasonable regard to comfort and safety. It would need but a brief trial for even railway directors to be convinced that a considerate and liberal policy would be not only the most popular, but in the end the most profitable.

A comparison of the results of the practice on two of the southern lines will show how the two systems would be likely to work. On the South Western Railway, which, with its branches, traverses an exceedingly attractive district, but on which the third-class carriages are among the dirtiest and the worst, and the treatment of third-class passengers the most churlish, of the railways out of London, the third-class passengers amounted, in 1863, to two millions and a quarter (2,258,608), the length of line open being 513 miles; whilst on less than a quarter of that mileage (125 miles), the London, Chatham, and Dover Company, which has the lightest, cleanest, and most cheerful of all the third-class carriages we have seen, and treats all its passengers with equal civility, conveyed upwards of three millions and a half (3,570,916); or a million and a quarter more third-class passengers than the South Western, though the total of its passengers of all classes was about three millions and a quarter less.

The reference to the comfort and safety of passengers leads the mind at once to the subject of Railway Accidents. Terrible as these are, both in themselves and their associations, it is satisfactory to know that, so far from increasing with the increase of railways, they are not merely proportionably, but positively declining. The number of accidents to passenger trains in the United Kingdom in 1863 was 52—exactly one a week. Of these, 10 were the result of collisions between passenger trains; 22 of collisions between passenger and other trains or engines; 6 of trains running off their proper line through points being wrong; 10 occurred from trains, or portions of trains, getting off the rails; 3 from accidents to the wheels or machinery; and 1 from couplings breaking. Of the 52 accidents, 44 occurred in England and Wales, 5 in Scotland, and 3 in Ireland. The total number of passengers killed by these accidents was 13, injured 400; in the previous year the total number of passengers killed was 24, injured 536. The relative number of passengers killed and injured in 1863 was—England and Wales, 11 killed, 371 injured; Scotland, 2 killed, 11 injured; Ireland, none killed, 18 injured. These figures give for the United Kingdom one passenger killed out of every 16 millions who travelled, and one injured out of every half million (511,000); and these numbers would be reduced if the number of journeys made by the sixty-four thousand season ticket-holders were included.

These, however, are only the passengers who were killed or injured by accidents occurring to trains. One other passenger was killed by his head coming in contact with the frame-work of a bridge as he was leaning out of a carriage window; and 21 were killed and 1 injured, "owing to their own misconduct or want of caution." If even these last were added, the proportion of passengers killed and injured would be very small, as compared with the number who travel. But it is certain that even this number is far greater than it ought to be, or would be, humanly speaking, if proper precautions were taken. The causes of these accidents and the means of prevention are very clearly and forcibly pointed out in the reports made to the Board of Trade by the Inspector of Railways, but do not fall within the scope of this article. There is one, however, that forces itself upon the notice of

every traveller, and is a source of constant annoyance as well as danger; and in the general protest against it we may fairly join. It is want of punctuality—a thing that on railways has become universal and chronic. So entirely indeed is this the case with "through trains," that it seems to be regarded as a matter of course by the station-masters and porters at intermediate stations that a train should be ten or fifteen minutes—and as travellers too well know it often is half-an-hour—behind its time. Surely, when one considers the multiplicity of possible mischances which unpunctuality may engender on the line, to say nothing of the enormous aggregate waste of the time of travellers kept waiting at the stations, it would seem to be a much more reasonable thing to ascertain distinctly the actual time the train requires for the journey, and at once fix on that, even though it made the average times *appear* to be half-an-hour longer in the time-tables.

Another matter, on the necessity of which pretty well all are agreed, is that of communication between the passengers and guards; but a practical method of carrying it out does not seem to have been devised; none at least whose practicability has been made clear to the railway directors. A little more public or parliamentary pressure, following another mishap or atrocity, will probably some day so quicken the perceptions of the directors, that they may discover a means of accomplishing the desired end: as some day it may prove sufficient to cause them to adopt the obvious precautionary measure of not allowing a train to leave a station till the electric telegraph has announced that the previous train has cleared the station in advance. If this were done, there would be no danger from the number of trains, or from their frequency.

It has of course been observed that in what has been said respecting the number of sufferers from railway accidents, only *passengers* were included: passengers alone, in fact, falling within the scope of this paper. But, to preclude misconception, we add a brief summary of all the railway accidents of 1863. To the deaths and injuries arising from accidents to passenger trains already given, must be added 7 servants of companies killed, and 35 injured, making the whole number 20 killed, and 435 injured, by the 52 accidents to passenger trains.

There comes then a far heavier item in the deaths and injuries arising from the ordinary working of the railways, and having no direct connection with the passenger traffic. Besides those above given, 4 railway servants were killed, and 9 injured, from collisions of goods trains, breaking of axles, couplings, &c., or other causes beyond their own control; 87 servants of railway companies and contractors were killed, and 14 injured, "owing to their own misconduct or want of caution;" 9 persons killed, and 1 injured, at level-crossings; 38 trespassers killed, and 7 injured; 2 persons committed suicide; and 2 are returned as killed, and 3 injured, under the heading "miscellaneous," making a grand total of passengers, railway servants, navvies, trespassers, and suicides—184 persons killed (one every other day), and 470 injured, on the railways of the United Kingdom during the year 1863.

Another branch of the subject, and one of the utmost importance in its social as well as commercial relations, but one that can here be

touched but very lightly, is that of the Goods Traffic. The stupendous extent of the goods traffic is evinced by the fact that, in 1863, the receipts from it exceeded those from the passenger traffic by considerably over two millions (2,113,361*l.*). Its enormous expansion by those receipts having exceeded those of the previous year by nearly a million and a half (1,418,296*l.*); whilst in ten years they had increased considerably more than seven millions (7,167,203*l.*). The total receipts from goods traffic in the United Kingdom in 1863 were 16,634,869*l.* Towards this great total, England and Wales contributed, as may be supposed, by far the larger portion (13,950,406*l.*); Scotland next (2,108,088*l.*); and Ireland least (442,111*l.*) Again, the different character of the countries is shown in the very different proportions of the several classes of goods under which the sums are made up. Thus, though in each country "General Merchandise" forms the largest item, in England and Wales it exceeds the next largest, "Minerals," by nearly half (4,476,384*l.*), and "Live Stock," by above eight millions and a half (8,515,664*l.*); whilst in Scotland the general merchandise only exceeds the mineral traffic by 270,000*l.*, and in Ireland the receipts from live stock are more than three times as great as from minerals. The actual sums are—England and Wales, general merchandise, 8,980,818*l.*; minerals, 4,504,434*l.*; live stock, 465,154*l.* Scotland, general merchandise, 1,155,500*l.*; minerals, 885,080*l.*; live stock, 67,508*l.* Ireland, general merchandise, 442,111*l.*; live stock, 104,111*l.*; minerals, 30,153*l.*

The main items of quantity composing the enormous goods traffic of England and Wales were—general merchandise, 26,741,928 tons; minerals, 55,613,641 tons (*i.e.*, coals, 39,737,074 tons, other minerals, 11,430,484 tons); horses, 226,439; cattle, 2,123,833; sheep, 6,076,908; pigs, 1,270,561. In Scotland, the cattle and sheep were in about the same proportion as in England, whilst pigs were a small minority: the cattle numbering 502,765; sheep, 1,214,771, and pigs only 71,218. In Ireland, on the other hand, the cattle were more numerous than the sheep, and above those in Scotland; and pigs of course far above either: cattle being 528,743; sheep, 470,205, and pigs, 770,941. It is noticeable also, that the horses conveyed by railway in Ireland exceeded those in Scotland by nearly a thousand, the numbers being, respectively, 24,826 and 23,973. Further, it is to be remarked, that though the receipts from goods in the United Kingdom were so much larger than from passengers, the number of goods trains which ran during the year was less by above eleven hundred thousand (1,159,627): the number of miles travelled by them was not very different (passenger trains, 61,032,143, goods, 55,560,018); the comparative equality arising from the circumstance that goods trains are generally through trains, whilst a large proportion of the passenger trains run only short distances.

It is hardly necessary to add a word on the effects of so vast a traffic. It tells plainly enough its own story to one who will but for a moment reflect on its extent and its consequences. We have seen how the passenger traffic adds to the industrial power, stimulates the energies, widens the sphere of observation, contributes, and may yet more and more contribute, to sharpen the intelligence and soften the

manners of the labouring class, and adds to the comfort and enjoyment of all. We here see how in their other great department railways promote the general prosperity and well-being. To say that railways are a necessity of our advanced manufactures and unparalleled commerce would be merely to repeat a truism which every one readily admits. And it is little more likely to be questioned, that if they did not create the commerce or originate the manufactures, they have wonderfully stimulated and assisted the growth of both. And, descending to more common-place matters, how evident it becomes, in considering somewhat in detail such operations as are here tabulated and shown only in their largest results, that the benefits of so extended a traffic must make themselves felt in their ramifications, not only in port, and city, and manufacturing town, but in every agricultural village, farm, and cottage; keeping down the price of articles of necessity, and bringing comforts within the reach of all, facilitating local trades, opening new markets, and providing new sources of employment, and a ready means of turning every product of art or nature to account.

There is another aspect of railways, not often considered, but in which they may be regarded with some interest and some complacency —as tax-payers. Not only do they, by the sums assessed on lines and stations, contribute largely towards local rates, but they are, to a degree not commonly suspected, sharers in the burden of that grim ogre, the property-tax. "The land occupied by railways in Great Britain," says the President of the Institution of Civil Engineers, in the address already quoted, "is under two hundred thousand acres, including stations and other conveniences. . . . The land used for agricultural purposes is about forty million acres; and yet the railway system, occupying only about one-half per cent. of the total area of the land, pays nearly as great an amount of income and property-tax as is paid by the whole of the farmers of Great Britain." This is sufficiently remarkable, though there is a manifest fallacy in the implied comparison. "The railway system" does not pay income-tax on the products of the land it occupies, but on the profits arising from the work it accomplishes. It would be as accurate to reckon the acres occupied by certain manufacturers, or for certain City offices, and point out for comparison that the bankers and stockbrokers who "occupy only about one hundredth or thousandth per cent. of the total area of the land pay nearly as great an amount of property-tax as is paid by the farmers, &c." The railway system needs no such strained comparisons. Its greatness is palpable and acknowledged. That like every other capitalist and producer it pays its full share of the taxes, both local and national, is what every tax-payer devoutly trusts. At the largeness of the sum he will admire and rejoice. The amount paid by the companies in this way in 1863 was a round million. According to the official returns, the exact sums were, Rates and Taxes—the kinds not being distinguished—631,127*l.*; government duty, 395,234*l.* The net receipts, or profits of the year (the gross receipts being 31,076,165*l.*, expenditure, 15,027,234*l.*), were somewhat over sixteen millions (16,048,931*l.*)

JAMES THORNE.

III.—PHYSICAL CONSTITUTION AND FUNCTIONS OF THE SUN, AND SOURCES OF ITS HEAT AND ENERGIES, AS RECENTLY INVESTIGATED.

Recent progress of science respecting the sun.—Application of the doctrine of the Conservation of Energy to solar physics.—The philosophy and cosmogony of Mayer.—Attributes of the sun as a source of physical energy.—Sir J. Herschel on its functions.—Mayer's Celestial Dynamics.—Meteoric theory of the sun.—Mayer's biological views in relation to the sun.—Solar Spots and Atmospheres.—Mayer's views remain almost unknown for some years.—Successive independent reproduction of them by Joule, Waterston, Helmholtz, and W. Thomson.—Present views of the latter on the sun.—Remarkable Phenomenon believed to be occasioned by the fall of a great Meteorite into it.—Views of Professor Tyndall, founded on those of Mayer, on solar action as the cause of organic life.—Those views examined.—Opposed by the President of the Linnæan Society.—The cause of organic action dual, influent life and solar action.—Indication of Sir J. Herschel's views on this subject, and on the source of the solar energies.

Since the appearance of the article in the 'Companion to the Almanac' for 1864, entitled "Recent Observations and Researches on the Physical Constitution of the Sun," immense additions, both of fact and theory, have been made to the science of the subject. One of the principal topics to which it was announced at the conclusion a second article would be devoted, relates to "The efforts made of late years to account for the supply of the enormous and incalculable amount of force, impressing undulatory motions on the ether, extending to unknown distances in space, of which we become sensible, and which act upon nature, both organic and inorganic, as Light and Heat, and Chemical Action, and perhaps as Magnetism also, to show why the sun is not exhausted, and may be inexhaustible." While on every one of these subjects great advances have been made, and magnetism has been proved at length to be one of the active principles received from the sun, in addition to that which by the correlation of terrestrial physical forces is inherent in, or becomes imparted to, bodies contained in the earth, the great philosophical doctrine of the present era of science—the Conservation of Energy—that which teaches that the interior activity which manifests itself in all the forces of nature, is a constant quantity in the universe, and is neither increased nor diminished, nor can ever be changed in amount while the existing frame of nature endures, however variable may be the forms which it assumes, has been appealed to in explanation of the perpetual radiation of the sun, and inseparably interwoven with the philosophy of Solar Physics. And the claims of the great modern and comprehensive enunciator of this doctrine, under its former designation of the Conservation of Force, Julius Robert Mayer, late a physician of Heilbronn, until very recently scarcely known in England and France, and as it would appear, but inadequately even in Germany, have been set forth and urged with great ability in all three countries. It has been found that while this comparative ignorance of his labours has prevailed, a theory of the source of the Solar Energies, almost identical with that explicitly stated by him, has been developed by mathematicians and physicists in England, Mr. Waterston and Professor William Thomson; and one of the most important results in general

physics at which, "as a seer and generalizer," he had arrived by calculation according to his own philosophical system—the numerical value of the mechanical equivalent of heat—had been obtained contemporaneously by a long series of exact experimental researches by Dr. Joule. It is intended in the following pages first to give an account of these labours so far as they relate to the sun, and its constitution and functions, the contributor of this article, however, reserving any expression of opinion on the validity of the system, either in itself or in its recorded application to the sun, while endeavouring to do justice to the philosopher of Heilbronn, and his contemporaries and followers, with respect to the remarkable combination of originality, talent, and knowledge which their researches jointly and severally evince, and to the value as an instrument in the investigation of nature of the system they have propounded.

Mayer's theory of the sun and of solar physics was first enunciated, in its elementary form, in the second of his now celebrated series of papers, "On Organic Motion, in its Connection with the Metamorphoses of Matter," which appeared at Heilbronn in 1845. This has not yet been translated into English, but Professor Tyndall has given a valuable *résumé* of its contents in his "Notes on Scientific History," published in the 'Philosophical Magazine' for July, 1864, from which the following statements are derived. He argues that "the thinker and generalizer is fit to stand, and will be caused to stand, beside the experimental philosopher." As Professor Tyndall himself deservedly enjoys a high reputation for successful experimental research, this must be regarded as a graceful tribute to one for whom he claims our admiration in the former character.

It may serve to explain the circumstance that Mayer should have originally stated his views of the functions and nature of the sun and the source of its energy, in a memoir on the theory of the motions of organic beings, to mention the fact that he had been led, by the contemplation of organic nature, suggested by a physiological observation made by him in the year 1840, to the publication of his first paper, "On the Forces of Inorganic Nature," which appeared in 1842, and in which he announces the principles of the indestructibility of force, its convertibility, and its quantitative constancy, but does not apply them to the sun. In his second paper, after discussing the subject of the mutual convertibility of heat and mechanical power, he thus states the amount of the heat that—according to his expression for the mechanical equivalent of heat, obtained by calculation from previous researches which, as Professor Tyndall has shown, is identical with Mr. Joule's, obtained by his own experiments, as just intimated—would result from the falling of the earth into the sun, which represents the elementary phenomenon of the production of the sun, or at least of the origin of its light and heat, agreeably to his views:

"The earth moves in its orbit with a mean velocity of 93,700′ [68,040 miles per hour]. To produce this motion by the combustion of coal, fifteen times the earth's weight of coal would have to be consumed, and the heat produced would be competent to raise the temperature of a quantity of water equal to the earth in weight, 128,000°. A small portion, therefore, of the force with which the earth moves

in its orbit, would suffice to dissolve all mechanical connection between its parts. Supposing a mass equal to the earth in weight to lie at rest on the surface of the sun, to raise that mass, place it at the earth's distance from the sun (215 times the sun's radius), and to impart to it there the velocity of 93,700′, would require 429 times the above quantity of coal, or a quantity 6,435 times the weight of the earth."

Proceeding to apply his philosophy to vital phenomena, and to deduce them from the action of the sun, he says:

"Measured by human standards, the sun is an inexhaustible source of physical energy. This is the continually wound-up spring which is the source of all terrestrial activity. The vast amount of force sent by the earth into space in the form of wave-motion would soon bring its surface to the temperature of death. But the light of the sun is an incessant compensation. It is the sun's light, converted into heat, which sets our atmosphere in motion, which raises the water into clouds, and thus causes the rivers to flow. The heat developed by friction in the wheels of our wind and water mills was sent from the sun to the earth in the form of vibratory motion."

("The reader," Professor Tyndall here interposes, "cannot fail to remark the insight implied in this last utterance. But a still higher order of thought immediately reveals itself.")

"Nature has proposed to herself the task of storing up the light which streams earthward from the sun; of converting the most volatile of all powers into a rigid form, and thus preserving it for her purposes. To this end she has overspread the earth with organisms, which, living, take into them the solar light, and by the consumption of its energy, generate incessantly chemical forces.

"These organisms are *plants*. The vegetable world constitutes the reservoir in which the fugitive solar rays are fixed, suitably deposited, and rendered ready for useful application. With this prevision the existence of the human race is also inseparably connected. The reducing action of the sun's rays on inorganic and organic substances is well known. This reduction takes place most copiously in full sunlight, less copiously in the shade, and is entirely absent in darkness, and even in candle-light. The reduction is a conversion of one form of force into another—of mechanical effect into chemical tension."

On Mayer's statement as above, that it is the sun's light converted into heat, which sets our atmosphere in motion, raises the water into clouds, and thus causes the rivers to flow, his zealous advocate does justice also to a previous investigator of solar phenomena, by observing: "This, and much more, was stated by Sir John Herschel in 1833, but Mayer was the first to show the relation of all these actions to the law of the conservation of energy."*

The part which this astronomer has taken in, so to speak, the vindication of the prerogatives of the sun, in reference to his functions in

* Professor W. Thomson, in a paper which will be cited in the sequel, had previously (1854) alluded to Sir J. Herschel's demonstration that a minute fraction of the sun's radiation is the source of the mighty terrestrial effects here considered, in illustration of the fact he alleges that the energy of this source had been scarcely thought of as a development of mechanical power. 'Trans. Roy. Soc., Edin.,' vol. xxi., p. 63.

In substituting the phrase "conservation of energy" for that of "force," as used by Mayer, Professor Tyndall follows the terminology proposed by Prof. Macquorn Rankine.

nature, and to solar physics generally, commencing a third part of a century ago, forms so considerable an element in the history of the subject, and involves so much of its science, that an episode relating to it is here indispensable. The works, especially the celebrated 'Lectures on Natural Philosophy' of Dr. Thomas Young, have proved to his successors, for more than the term just stated, a yet unexhausted mine of anticipated discoveries, often in a much more than rudimentary form. The works of Sir J. Herschel, in like manner, are replete with prior indications of facts and principles, some of which have been subsequently developed by his later contemporaries. Others, we may hope, will be augmented, and carried still further by himself, while many will remain which will become the foundations of future discoveries in the hands of those whose minds his labours have contributed to form, and whose researches will be conducted by methods originally suggested by him.

The claim here preferred for him by Dr. Tyndall, rests on a paragraph describing the effects of the sun's radiation upon the earth, first published in 1833, in Sir J. Herschel's 'Treatise on Astronomy,' forming part of the 'Cabinet Cyclopædia,' and repeated, with some changes, in the seven editions of his 'Outlines of Astronomy,' founded upon that work, of which the first appeared in 1849, and the last in the present year, 1864. It is here cited as originally published, and as it now appears, distinguishing the alterations and additions:

(Par. 336.) [399 in edit. of 1864.] "The sun's rays are the ultimate source of almost every motion which takes place on the surface of the earth. By its heat are produced all winds, and those disturbances in the electric equilibrium of the atmosphere, which give rise to the phenomena [of lightning, and probably also to those] of terrestrial magnetism [and the aurora]. By their vivifying action vegetables are elaborated [enabled to draw support] from inorganic matter,* and become, in their turn, the support of animals and of man, and the sources of those great deposits of dynamical efficiency which are laid up for human use in our coal strata.† By them the waters of the sea are

* The significance of this important alteration will receive attention in another place. See page 68.

† To this remarkable point in the history of the functions of the sun, the author, in the first edition of his 'Outlines of Astronomy,' published in 1849, appended, as in other cases, the modest claim of priority implied in the note, "so in the edition of 1833," meaning that 'Treatise,' which was repeated in subsequent editions of the 'Outlines.' In the seventh edition, published in 1864, thirty-one years after the original enunciation of the idea, Sir J. Herschel adds to this claim, "The celebrated engineer Stephenson is generally, but erroneously, cited as the source of this remark."

Once attributed to the great railway engineer, with whose constructions and utterances the great mass of the public was, of necessity, better acquainted than with the works of the astronomer, the credit of the remark was currently given to him. Mr. Smiles, in his life of G. Stephenson, seems to assign to it the date of 1845, or that of 1847, stating it in the form (here abbreviated) that "a railway train is driven by the light of the sun, absorbed by plants, and, after being buried in the earth for ages in fields of coal, liberated and made to work for great human purposes."

But even professed men of science did not ascribe this perception to its original author. Dr. Carpenter, for example, in a paper on the mutual relations of the vital and physical forces (Phil. Trans. 1850, p. 755), repeats it in a physiological form, without referring it to any author. Nearly ten years afterwards he introduced the following statement into a Friday-evening discourse on the same subject, delivered at the Royal Institution (Notes of Proceedings, Feb. 24, 1860):—"It is a consideration of no little interest that, on this view, the light, heat, and mechanical power which we now obtain from the combustion of coal, are really derived, through the vegetable life of the carbo-

made to circulate in vapour through the air and irrigate the land, producing springs and rivers. By them are produced all disturbances of the chemical equilibrium of the elements of nature, which, by a series of compositions and decompositions give rise to new products, and originate a transfer of materials. Even the slow degradation of the solid constituents of the surface, in which its chief geological changes consist [and their diffusion among the waters of the ocean (*omitted in* 1864)], are [is almost] entirely due [on the one hand] to the abrasion of the wind and rain, and the alternate action of the seasons [alternation of heat and frost]; [on the other, to the continual beating of the sea waves, agitated by winds, the results of solar radiation. Tidal action (itself partly due to the sun's agency) exercises here a comparatively slight influence. The effect of oceanic currents (mainly originating in that influence), though slight in abrasion, is powerful in diffusing and transporting the matter abraded]; and when we consider the immense transfer of matter so produced, the increase of pressure over large spaces in the bed of the ocean, and diminution over corresponding portions of the land, we are not at a loss to perceive how the elastic power of subterranean fires, thus repressed on the one hand and relieved on the other, may break forth in points when [where] the resistance is barely adequate to their retention, and thus bring the phenomena of even volcanic activity under the general law of solar influence."

This paragraph constitutes a remarkable part of the history of our knowledge respecting the functions of the sun. Besides the comprehensive account which it gives of the solar action upon the earth, and the universality which it truly ascribes to the rays of the sun, as causes of terrestrial phenomena, two of the themes it presents for contemplation are especially deserving of attention. The first of these arises from the perception that the "dynamical efficiency" of coal consists in an evolution of the solar rays received by the coal-plants of former eras. The eagerness with which this idea has been seized and repeated by

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niferous epoch, from the light and heat communicated to the flora of that epoch by the sun; a fact which was discerned by the genius of George Stephenson, before the general doctrine of the 'correlation of forces' had been given to the world by Mr. Grove."

This, together perhaps with the previous statement of Mr. Smiles, may probably have occasioned the author of the 'Outlines of Astronomy,' to introduce the correction cited above. If Mr. Smiles be correct, however, Mr. Grove's doctrine had been given to the world years before Stephenson made the remark attributed to him; and the original expression of the perception by Sir J. Herschel had been before the public nine or ten years prior to the assertion of the correlation of forces by Mr. Grove.

In February 1864 (prior to the appearance of the new edition of the 'Outlines of Astronomy') the present writer delivered some lectures on select subjects of Physical Geography, before the Literary and Philosophical Society of Newcastle-upon-Tyne. Among these subjects were the relations to the temperate latitudes of the globe of the series of natural operations by which the carbon of plants is partially separated from their other elements, and finally isolated as a mineral substance,—by which *woody-fibre* becomes *coal*. Having been from the first aware of Sir J. Herschel's priority in affirming the solar origin of the heat derived from the combustion of coal, and being desirous of indicating the relation of that idea to the newly-generalized principle of the conservation of force, with which it had not been, to his knowledge, previously connected, he introduced the subjoined passage into the syllabus of the lectures:—"The solar action on the coal-plants, according to a perception first expressed by Sir John F. W. Herschel, and subsequently by George Stephenson, was the source of the 'dynamical efficiency' now laid up for human use in the coal strata; the light and heat and potential chemical activity thus received during former ages being evolved again by the combustion of the coal, agreeably to the principles of the correlation and conservation of force."

both naturalists and physicists shows the value which they attach to it. How important a contribution to the philosophy of nature it really was, may be illustrated by the circumstance that M. Dumas, the eminent French chemist, so recently as 1841, though he compares the existing vegetation, that "immense apparatus" which "solar light," he says, "alone has the power of putting in motion," to "that other storehouse of carbon, constituted of the ancient deposits of pit-coal, and which, burnt by the genius of Papin and of Watt, also produces carbonic acid, water, heat, motion," did not recognise the still more important fact of the solar origin of these results also.*

The second theme here alluded to, is that in which the disturbances of the chemical equilibrium of the elements of nature are ascribed to the solar influence. This, while it is an instance of true philosophical prescience, depending on the combination, in the same penetrating mind, of knowledge obtained by the application to the facts of nature of several or even many distinct branches of science, is, at the same time, an evidence of the further advance made by Grove and Mayer in announcing the doctrines of the correlation of forces and the conservation of force, which are now appealed to in explanation of the apparent inexhaustibility of the sun's energy. These doctrines evince that, not only do the solar rays *produce* the series of chemical compositions and decompositions which give rise to new products, and originate a transfer of materials on the earth; but that they are themselves *converted* into chemical action, which is one of their correlates; so that the entire amount of force received from the sun, and which effects this particular work, continues undiminished, though unincreased, in the equivalent amount of chemical attraction which is manifested. When viewed in connection with the sun's domination over plutonic and volcanic action, maintained in the sequel, it constitutes one of those comprehensive statements of governing causative principles which comprise many true theoretical views of particular natural actions that come to be announced in the further progress of science. Thus it evidently includes the germ of the theory, subsequently proposed independently by Mr. Babbage and Sir J. Herschel himself, of the secular variation of the isothermal surfaces of the interior of the globe, resulting in the upward migration of heat from the interior in consequence of the deposition of fresh matter upon the surface. It also expresses, in great generality, but by a definite implication, the deduction afterwards made by the present writer of the chemical phenomena of volcanoes from the hypothesis of subterranean heat, by the intervention of this thermotic theory, certain chemical consequences of which, accounting for those phenomena, he believes that he was the first to point out.†

* The lecture of M. Dumas, here cited (translated in 'Phil. Mag.,' third series, vol. xix. p. 337), 'On the chemical statics of organized beings,' was delivered prior to the appearance of Mayer's first memoir, and four years previously to that of his second memoir, of which Professor Tyndall has given a *résumé*. With this it deserves to be compared throughout, relating, as it substantially does, to the same subject.

† The history of this subject will be found in the article VOLCANO, in the 'English Cyclopædia,' Division of Arts and Sciences, vol. viii., col. 671-674. The following condensed, but it is believed accurate, view of it as it now stands, was given in the syllabus of the concluding lecture of a course on Volcanoes and Earthquakes, delivered by the writer of this article at the London Institution, on January 7, 1863:—"Compatibility, con-

Mayer developed his theory of the sun, in his 'Celestial Dynamics,' published in 1848, from which the following account of it is extracted or condensed:

He commences by recalling to attention the facts that every incandescent and luminous body diminishes in temperature and luminosity in the same degree as it radiates light and heat, and at last, provided its loss be not repaired from some other source of these agencies, becomes cold and non-luminous; light, like sound, consisting of vibrations which are communicated by the luminous or sounding body to a surrounding medium. "The sun has often, and appropriately, been compared," he remarks, "to an incessantly sounding bell. But by what means," he continues, "is the power of this body kept up in undiminished force, so as to enable him to send forth his rays into the universe in such a grand and magnificent manner? What are the causes which counteract or prevent his exhaustion, and thus save the planetary system from darkness and deadly cold?"

After dismissing, with a slight notice, some vague and in every way unsatisfactory suggestions which have been offered in reply to these questions, he proceeds to review the sources of heat, the mechanical equivalent of which he finds, by calculation, to be a quantity which, when corrected by more accurate data than he possessed, is 771·4 foot-pounds, Mr. Joule, the contemporary English experimenter on the subject, having found it to be 772 foot-pounds.* He next considers the means of measuring the sun's heat, and afterwards to maintain in the following manner that "*the organisation of the planetary system contains the cause of the sun's heat.*"

The space of our solar system is filled with a great number of ponderable objects, which have a tendency to move towards the centre of gravity of the sun; and in so doing, their rate of motion is more and more accelerated. If a cosmical mass, such as one of these, within the physical limits of the sun's sphere of attraction, begins its fall towards that heavenly body, it will be disturbed in its long path

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vergence, and probable identification of the thermotic theories of those phenomena founded on the old conception of a primitive internal heat, with the theory which refers them to chemical action, originally proposed by Sir H. Davy, and advocated by Dr. Daubeny, Professor Bunsen, and other chemists and geologists of the present time; as argued in previous lectures on igneous geology. The latter theory, thus regarded, supplies the superficial cause of high temperature in the earth's crust, shown, by the recent experimental and mathematical investigations of Mr. W. Hopkins, to be required, in order to account for the observed increase of temperature in descending within the earth. Volcanoes and earthquakes, accordingly, probably the immediate results of a secondary and local generation of heat, arising from a circulation of chemical affinities, in the alternate reduction and oxidation of combustible bases, and taking place in cavities of the superficial solid crust, in which earthquake-waves originate, and of which volcanoes are communications with the surface. Such chemical action excited by the transfer of the earth's central heat towards the surface, occasioned by the change of position of the matter constituting the superficial crust, *effected by the action of the sun upon the exterior of the globe.* . . . . Transition from plutonic to volcanic action. Quantity of matter elevated by the former and ejected by the latter above the level of the sea, or mean surface of the globe, probably equivalent to that in which the series of physical processes commenced by the solar action in the atmosphere and the waters terminates by carrying below that level, and depositing on the bed of the sea, in the form of sedimentary strata." The explicit reference to the sun as the initiating cause of this series of actions was first made by Sir J. Herschel.

* This term denotes the weight which a quantity of heat sufficient to elevate the temperature of one pound of water 1° Fahr. is competent to raise one foot high.

for many centuries, "at first by the nearest fixed stars," and afterwards by the bodies of the solar system. The motion of such a mass in a straight line, or its perpendicular fall into the sun, would therefore, under such conditions, be impossible. The observed motion of all planetary bodies in closed curves agrees with this.

A resisting medium pervading all space would cause the planets to move in shorter and shorter orbits, and at last to fall into the sun. "Assuming such a resisting medium, these wandering celestial bodies must have on the periphery of the solar system their cradle, and in its centre their grave; and however long the duration, and however great the number of their revolutions may be, as many masses will, on the average, in a certain time, arrive at the sun as formerly, in a like period of time, came within his sphere of attraction.

"All these bodies plunge with a violent impulse into their common grave. Since no cause exists without an effect, each of these cosmical masses will, like a weight falling to the earth, produce by its percussion an amount of heat proportional to its *vis viva*." * (See above, page 42).

"From the idea of a sun whose attraction acts throughout space, of ponderable bodies scattered through the universe, and of a resisting ether, another idea necessarily follows—that, namely, of a continual and inexhaustible generation of heat on the central body of this cosmical system."

"The existence of matter in a primordial condition (*urmaterie*), moving about in the universe, and assumed to follow the attraction of the nearest stellar system, will scarcely be denied by astronomers and physicists; for the richness of surrounding nature, as well as the aspect of the starry heavens, prevents the belief that the wide space which separates our solar system from the regions governed by the other fixed stars, is a vacant solitude destitute of matter." †

But Mayer here leaves supposition, and proposes to confine his attention to what may be learned from observation. Besides the known planets and satellites, a great many other bodies move within the space of the planetary system. Of all the comets belonging to our system, comparatively few can be seen by the inhabitants of the earth; "and, therefore, the not inconsiderable number of actually-observed comets obliges us, according to the rules of the calculus of probabilities, to assume the existence of a great many more beyond the sphere of our vision."

"Besides planets, satellites, and comets, another class of celestial bodies exists within our solar system. These are masses which, on account of their smallness, may be considered as cosmical atoms, and

* *Vis viva*, living force, a term first given by Leibnitz to force when producing motion; as fully explained, with its mathematical attributes, in the article on the subject in the 'English Cyclopædia,' Division of Arts and Sciences, vol. viii., col. 647.

† It may be doubted whether there is anything in the aspect of the starry heavens indicating the condition of inter-stellar space; and the obvious occupation of that space by the luminiferous medium is sufficient to show that it is not a vacant solitude destitute of matter, which need not be of the kind termed gross or ponderable, of the existence of which beyond the limits of the solar system, and between that and the next solar system, if we except certain comets, we have no knowledge whatever. In presenting Mayer's views, it is requisite to point out the mere assumptions he occasionally makes, however accurate may be his reasoning from some of them.

which Arago has appropriately called asteroids. They, like the planets and the comets, are governed by gravity, and move in elliptical orbits round the sun.* When accident brings them into the immediate neighbourhood of the earth, they produce the phenomena of shooting-stars and fireballs.'

"On the whole, the number of asteroids which come near the earth in the space of a year, must be computed to be thousands of millions. This, without doubt, is only a small fraction of the number of asteroids that move round the sun, which number, according to the rules of the calculus of probabilities, approaches the infinite."

From the great density and magnitude of the planets, the shortening of the diameters of their orbits (from the resistance of the ether) proceeds, as might be expected, very slowly, and is, up to the present time, inappreciable. The smaller the cosmical masses are, on the contrary, other circumstances remaining the same, the faster they move towards the sun. It may, therefore, happen that, in a space of time wherein the mean distance of the earth from the sun would diminish one metre, a small asteroid would travel more than one thousand miles towards the central body.

As cosmical masses stream from all sides in immense numbers towards the sun, it follows that they must become more and more crowded together as they approach thereto. The conjecture at once suggests itself that the zodiacal light, the nebulous light of vast dimensions, which surrounds the sun, owes its origin to such closely-packed asteroids. However it may be, this much is certain, that this phenomenon is caused by matter which moves according to the same laws as the planets, round the sun; and it consequently follows, that the whole mass which originates the zodiacal light is continually approaching the sun and falling into it. (See page 51, 61; and 'Companion,' 1864, p. 51.)

"From the great number of cometary masses and asteroids and the zodiacal light on the one hand, and the existence of a resisting ether on the other, it necessarily follows that ponderable masses must continually be arriving on the solar surface. The effect produced by these masses evidently depends on their final velocity." In order to determine the latter, Mayer proceeds to discuss some of the elements of the theory of gravitation. He finds "that a mass which, after moving in central motion, arrives at the sun's surface, has the same velocity as it would possess had it fallen perpendicularly into the sun, from a distance from the centre of the sun equal to the major axis of its orbit; whence it is apparent that a planet, on arriving at the sun, moves at least as quickly as a weight which falls freely towards the sun from a distance as great as the solar radius, or 441,600 miles." †

"What thermal effect corresponds to such velocities? Is the effect sufficiently great to play an important part in the immense development of heat on the sun?" He answers this according to a formula previously given, from which it results that "the velocity of

* This statement is too absolute. We are not yet acquainted with a single one of these bodies whose orbit is actually known; however probable it may be that they do revolve around the sun and that their orbits are elliptical.

† The recent correction of the solar diameter will reduce this to about 425,000 miles.

an asteroid when it strikes the sun measures from 445,750 to 630,400 metres in a second; the calorific effects of the percussion is consequently equal to from 27½ to 55 millions of degrees of heat." *

"An asteroid, therefore, by its fall into the sun, develops from 4,600 times to 9,200 times as much heat as would be generated by the combustion of an equal mass of coal."

We know the connection between the space through which a body falls, the velocity, the *vis viva*, and the generation of heat on the surface of this globe. If we again substitute for the earth the sun, with a mass 350,000 times greater, and for a height of a few metres celestial distances, we obtain a generation of heat exceeding all terrestrial measures. And since we have sufficient reason to assume the actual existence of such mechanical processes in the heavens, we find therein, according to Mayer, "the only tenable explanation of the origin of the heat of the sun."

The empirical law, that the diathermic energy of heat, or its power of penetrating through media, increases with the temperature of the source from which the heat is radiated, teaches us that the sun's surface must be much hotter than the most powerful process of combustion could render it.

Other methods furnish the same conclusion. If we imagine the sun to be surrounded by a hollow sphere, it is clear that the inner surface of this sphere must receive all the heat radiated from the sun. At the distance of our globe from the sun, such a sphere would have a radius 215 times as great, and an area 46,000 times as large as the sun himself; those luminous and calorific rays, therefore, which meet this spherical surface at right angles retain only $\frac{1}{46{,}000}$ part of their original intensity. If it be further considered that our atmosphere absorbs a part of the solar rays, it is clear that the rays which reach the tropics of our earth at noonday, can only possess from $\frac{1}{50{,}000}$ to $\frac{1}{60{,}000}$ of the power with which they started. These rays, when gathered from a surface of from five to six square metres, and concentrated in an area of one square centimetre, would produce about the temperature which exists on the sun—a temperature more than sufficient to vaporize platinum, rhodium, and similar metals.

The reader may compare this estimate with Mr. Waterston's experimental result of nearly thirteen millions of degrees of Fahrenheit's thermometer for the potential temperature of the sun's radiating surface, giving an actual temperature exceeding by some millions of degrees that here approximately defined. See 'Companion to the Almanac, 1864,' page 49.

The heat generated by the fall of an asteroid into the sun is from 7,000 to 14,000 times greater than that developed by the combustion of the oxyhydrogen mixture, estimated by Bunsen to be 14,580° Fahrenheit. From data like these, the extraordinary diathermic

* These are degrees of the centigrade thermometer. As the numbers are only wide estimates and are proportional to each other, it is not requisite to reduce them to Fahrenheit's scale of heat, according to which, however, a few other temperatures given in this paper are stated. This explanation is applicable also to the metrical measures employed throughout. The distances given by Mayer in German geographical miles, however, are reduced to English miles.

energy of the sun's rays, the immense radiation from his surface, and the high temperature in the focus of the reflector, are easily accounted for. One kilogramme of the mass of an asteroid originates from 27·5 to 55 millions of units of heat; the quantity of cosmical masses, therefore, which falls every minute into the sun, amounts to from 94,000 to 188,000 billions of kilogrammes. Measured by terrestrial standards, the ascertained number of so many billions of kilogrammes per minute appears incredible. This quantity, however, may be brought nearer to our comprehension by comparison with other cosmical magnitudes. The nearest celestial body to us (the moon), has a mass of about 90,000 trillions of kilogrammes, and it would, therefore, cover the expenditure of the sun by its incorporation with it for from one to two years. The mass of the earth would afford nourishment to the sun for a period of from 60 to 120 years.

Mayer now cites Sir J. Herschel's illustration of the relative magnitudes and distances of the parts of the solar system, now well known, in which a globe two feet in diameter represents the Sun; the Earth will be represented by a pea at the distance of 430 feet from it; Jupiter by a moderate-sized orange, in a circle nearly half a mile across; and Neptune a good-sized plum, on a circle about two miles and a half in diameter, while from Neptune to the nearest fixed star will be more than 5,000 miles.*

"To complete this picture," he adds, "it is necessary to imagine finely-divided matter grouped in a diversified manner, moving slowly and gradually towards the large central globe, and on its arrival attaching itself thereto. This matter, when favourably illuminated by the sun, represents itself to us as the zodiacal light. This nebulous substance forms also an important part of a creation in which nothing is by chance, but wherein all is arranged with Divine forethought and wisdom."†

According to the preceding calculations, one square metre of solar surface receives on an average from 15 to 30 grammes of matter per minute. To compare this with a terrestrial phenomenon, a gentle rain sends down on the same area of the earth 17 grammes per minute of water.

The continual bombardment of the sun by these cosmical masses

* Mayer's citation is here corrected from the original, with respect to the sun and planets; and a nearer star, of which the parallax is known, is taken than the one whose proportional distance he states as being that of the nearest.

† In justice to Mayer, some of the bearings of whose philosophy are liable, we think, to misapprehension, we subjoin an appropriate extract from his fourth paper, the general subject of which is the mechanical equivalent of heat:—

"The exact sciences are concerned with phenomena and measurable quantities. The first cause of things is Deity—a Being ever inscrutable by the intellect of man; while 'higher causes,' 'supersensuous forces,' and the rest, with all their consequences, belong to the delusive middle region of naturalistic philosophy and mysticism."

But in his second paper, relating to organic motion, Mayer had said, when speaking of the activity of a muscle—"Like the whole organism, the organ itself, the muscle, has its psychical and its physical side. Under the former we include the nervous influence, under the latter the chemical processes. The motions of the steam-ship are performed in obedience to the will of the steersman and engineer. The spiritual influence, however, without which the ship could not be set in motion, or, wanting which, would go to pieces on the nearest reef, guides, but moves [impels] not. For the progress of the vessel we need physical force—the force of coal; in its absence, the ship, however strong the volition of its navigator, remains dead." This allusion to the "psychical side" of a muscle, illustrated by the navigation of the steam-ship, we may observe, appears to involve one of

ought to increase its volume as well as its mass, if centripetal action only existed. The increase of volume could scarcely be appreciated by man; for if the specific gravity of these cosmical masses be assumed to be the same as that of the sun, the enlargement of his apparent diameter to the extent of one second, the smallest appreciable magnitude, would require from 33,000 to 66,000 years.

Not quite so inappreciable would be the increase of the mass of the sun. If this mass, or the weight of the sun, were augmented, an acceleration of the motion of the planets in their orbits would be the consequence, whereby their times of revolution round the central body would be shortened. The mass of the sun is 2·1 quintillions of kilogrammes, and the mass of cosmical matter annually arriving at the sun stands to the above as 1 to from 21 to 42 millions. Such an augmentation of the weight of the sun ought to shorten the sidereal year from $\frac{1}{42,000,000}$th to $\frac{1}{85,000,000}$th of its length, or from three-fourths to three-eighths of a second.

"The observations of astronomers do not agree with this conclusion. We must, therefore, fall back on the theory which assumes that the sun, like the ocean, is constantly losing and receiving equal quantities of matter." This harmonizes with the supposition that the *vis viva* of the universe is a constant quantity.

Mayer had previously alluded to Newton's having seen, in the continual emission of light, a cause tending to diminish the solar mass, and having "assumed, in order to make good this loss, comets and other cosmical masses to be continually falling into the central body."* "Adopting the undulatory theory of light," Mayer continues, "the motion it infers cannot be imagined apart from another simultaneous motion, a translation of the particles themselves (perhaps the cause of the repulsion of the tails on comets when in the neighbourhood of the sun): radiation, therefore, continually diminishes the mass of the sun, being a centrifugal action equivalent to a centripetal motion, and the latter being the gravitation of cosmical masses to the sun as already considered."

This idea of the diminution of the mass of the sun by its radiation, it may be remarked, is inconsistent with Mayer's previous comparison (page 47) of the sun to a vibrating bell, which communicates its own motion to the surrounding medium, but suffers no loss or translation into space of its substance. That the sun has a centrifugal action equal to its centripetal is more than probable, but that its radiation can diminish its mass appears to be opposed to the law of the conservation of energy.

On the subject of the solar spots, Mayer cites Sir J. Herschel's

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those involuntary acknowledgments which a "seer and generalizer," who is also a lover of truth for its own sake, is often led to make, even though it may be ostensibly incompatible with a system which he is most sincere and earnest in advocating. Surely the will of the steersman and of the engineer, "the spiritual influence" which "guides" the vessel, is an example of the "higher causes" and "supersensuous forces," the existence of which Mayer elsewhere virtually denies, without being identical with "the first cause;" but having in reality an intermediate nature, receiving from that above its faculty of wielding the physical force below.

* Newton's hypothesis on this subject related to comets only. It does not appear that he recognised the existence of "other cosmical masses," which were not the known planets or stars.

well-known account of them, and proceeds as follows:—"The changes on the solar surface evidently point to the action of some external disturbing force;* for every moving power resident in the sun itself ought to exhaust itself by its own action. These changes, therefore, are no unimportant confirmation of the theory explained in these pages."

But our limited knowledge of physical heliography, he remarks, does not allow special information to be given about the manner in which the solar surface is affected by cosmical masses. But he mentions "some probable conjectures."

The extraordinary high temperature which exists on the sun almost precludes the possibility of its surface being solid; it doubtless consists of an uninterrupted ocean of fiery fluid matter. This gaseous envelope becomes more rarefied in those parts most distant from the sun's centre. He appears not to take any account of the refrigeration which the surface of the sun perpetually undergoes, and which, in consequence of the fresh supply of heat requiring time, may, as suggested in the former article, cause from time to time the alternate solidification and liquefaction of its surface. (See also page 68.)

Mayer then enters into a calculation relative to the extent of the sun's atmosphere, which he conceives to be finite, but having an altitude which does not attain 1840 miles, "or it cannot be as much as 1-240th of the sun's radius." We need not enter further into this subject than to remark that an atmosphere to which his results apply must be the interior or lower atmosphere, the subject of the mathematical inquiry of Professor Challis, given in our first article, pp. 26—30, 46, and to it as resting, or to that portion of it which reposes in part, upon the photosphere. Sir J. Herschel, in 1847, had shown reason for believing that the altitude of the sun's atmosphere must be a considerable aliquot part of his radius; and the height of the clouds called luminous prominences, some being 40,000, and some 70,000 miles, evinces this to be true, for either of those quantities is a considerable part of the sun's radius, one being nearly 1-10th, and the other nearly 1-6th. Professor Kirchhoff has recognised on other grounds the great comparative extent of the sun's atmosphere. But this we conceive to be the exterior atmosphere, reposing upon the lower and interior one to which the calculation of Mayer refers; the two being, perhaps, rendered immiscible, and being precluded from mutual interdiffusion by a condition resulting from their high temperature analogous to the spheroidal one which permits two liquids to roll upon each other without mingling.

Mayer, however, remarks that on the sun's surface, in spite of the great heat, such substances as water may possibly exist in the liquid state under a pressure thousands of times grea[illegible] than that of our atmosphere. This would agree with the views [illegible]ken of the constitution of the solar envelopes in our former artic[illegible] p. 44, and with Sir J. Herschel's recent inference that matter, "i[illegible] the intermediate state of gradual transition from liquid to vapour," [illegible]thout expansion, made known by Cagniard de la Tour, is "realized on the grandest scale in solar physics."†

* Mr. Balfour Stewart has recently attributed them to the action of the planets.

† 'Quarterly Journal of Science,' April, 1864; vol. i. p. 222.

"Since gases, when free from any solid particles, emit, even at very high temperatures, a pale transparent light—the so-called *lumen philosophicum*—it is probable that the intense white light of the sun has its origin in the denser parts of his surface [or in the liquid and solid parts, as suggested in the former article]. If such be assumed to be the case, the sun's spots and faculæ seem to be the disturbances of the fiery liquid ocean, caused by most powerful meteoric processes, for which all necessary materials are present, and partly to be caused by the direct influence of streams of asteroids. The deeper and less heated parts of this fiery ocean become thus exposed, whereas the elevations form the so-called faculæ." Mayer here cites the experiments of the American physicist, Henry, according to which the radiant heat of the spots is inferior to that of the brighter parts of the sun. But this result (which is susceptible however of a very different explanation), as well as the previous inferences of Mayer, is opposed to the view of the distribution of heat in the sun which the present writer has been led to take, and which also is stated in the former article. It had been partially held before, though on a different account; and, for various reasons, it is now gaining ground among both physicists and astronomers, so far at least as the more intense heat of the nucleus is concerned.

In the fourth of Mayer's memoirs, published in 1851, the subject of which is the mechanical equivalent of heat, he affirms that by help of our knowledge of that quantity, and the relation which it expresses, many problems can be solved which, without it, could not be attacked at all; among which, the calculation of the thermal effect of the falling together of cosmical masses may be especially mentioned. The view here taken of his theory of the sun and its functions may be appropriately terminated by the discussion of one of these problems, which involves his last published conclusions on the subject.

If two cosmical masses, moving in space about their common centre of gravity, were, by any cause whatever—for example, by the resistance of the surrounding medium—caused to fall together, the question arises—How great is the thermal effect corresponding to this process of mechanical combination?

Even though the elements of the orbits (that is, their eccentricity) may be unknown, we can, nevertheless, calculate from the given weight and volume of the masses in question the maximum and the minimum of the required effect. Thus let it be supposed, for example, that our earth had been divided into two equal globes which had united in the manner described: calculation teaches us that the amount of heat which would have been evolved in such a case would considerably exceed that which an equal weight of matter could furnish by the most intense process of chemical action.

It is more than probable that the earth has come into existence in some such way, and that in consequence our sun, as seen from the distance of the fixed stars, exhibited at that epoch a transient burst of light. But what took place in our solar system perhaps millions of years ago, still goes on at the present time here and there among the fixed stars; and the transient appearance of stars, which, in some

cases, like the celebrated star of Tycho Brahe, have, at first, an extraordinary degree of brilliance, may be satisfactorily explained by assuming the falling together of previously invisible double stars.

Contrasted with such explosive bursts of light is the steady radiation, shown continuously through enormous periods, by the greater number of fixed stars, and among them, by our sun. "Do these appearances, which in so special a manner tempt to higher speculations, constitute a real exception to the exhaustion of a cause in producing its effect, which, in accordance with the foregoing considerations, we have regarded as an established law of Nature? or does the small sum of human knowledge authorise us in supposing that here also there is an equivalence between performance and expenditure, and in searching for the conditions of that equivalence?"

We have now to enter upon a chapter in the history of science, and specifically in that of celestial dynamics, which is as extraordinary as it is interesting, and as instructive as it is cautionary. We have seen that Mayer, following up the proposition and applications of the law of the conservation of force, which he commenced in the first of his now celebrated four papers, published in 1842, announced his theory of the sun in his second paper, which appeared in 1845, fully developed it in his third memoir, on celestial dynamics, in 1848, and added to it some corollaries and final consequences in his fourth paper published in 1851. But with the exception of the first paper, which appeared in the "Annals of Chemistry and Pharmacy," edited by the two eminent German chemists, Wöhler and Liebig, and published at Heidelberg, these were not made public in the transactions or proceedings of any scientific body, or in any philosophical journal. Perhaps their novelty, their depth of reasoning, and their being founded on the discussion of experimental researches already extant, without relating new experiments, had caused their exclusion from journals and academical collections, a circumstance of not unfrequent occurrence in the history of discovery. But, however this may have been, the views of Mayer appear to have remained unknown to the world of science almost throughout Europe for several, we might almost say for many, years.

In the meantime various mathematicians, as well as astronomers and experimental philosophers, had been led to pursue that portion of the law of the conservation of energy which consists of the mechanical theory of heat into some of the results it gives when applied to cosmical inquiries and speculations. Mr. Waterston, whose elaborate experiments and researches on the temperature of the sun's surface have been noticed in our former article ('Companion, 1864,' page 49), communicated to the section of mathematical and physical science of the British Association, at the meeting at Hull in 1853, five years subsequently to Mayer's full development of his own celestial dynamics, a paper "On Dynamical Sequences in Kosmos," in which, evidently unacquainted with what the philosopher of Heilbronn had enunciated, he produced a theory of the sun in its essential principles identical with his, but in a less

comprehensive form, as a new deduction from the dynamic theory of heat accepted as inductively demonstrated.

Of Mr. Waterston's theory, however, it is important to give some particulars, on account of the bearing which it has both on what had been done before, and on what has been since brought forward, and is to a great extent accepted at the present time, having formed a portion of the subject matter of a course of lectures on the "Conservation of Energy," delivered at the Royal Institution of Great Britain (Albemarle-street, London: the school of Davy and Faraday and Tyndall) in the spring of the present year, 1864, by Professor Helmholtz of Heidelberg, himself one of the original and independent reproducers of the conclusions of Mayer, and expositors of the principle of the conservation of energy.

The dynamic theory of heat, Mr. Waterston observed, seems to supply us with a valuable standard of physical causation that in the course of time must have an important influence on the progress of science. It might not be considered an illegitimate course of inquiry to assume the theory as proven, and endeavour to realize, as far as our lights at present extend, the conditions and the sequence of action, implied by its existence as a general principle throughout nature. The relation that must exist between heat and gravitation is extremely interesting, and deserves to be enlarged upon. It is in perfect conformity, according to Mr. Waterston, with the views generally entertained, he says, of the progressive formation of the solar system—the nebular hypothesis of Laplace, though he appears to blend together under that appellation the inductive speculations of Sir William Herschel on the condensation of nebulous matter into suns with those of the French mathematician on that of the sun's nebulous atmosphere into planets. The dynamical sequence in this case may be illustrated as follows, and the reader will do well to compare the illustration with the exposition of Mayer's theory, page 49. Suppose a 32-lb. cannon-ball to descend through a distance equal to the earth's radius, under the influence of the same force of gravity as exists at the surface, the velocity acquired is 36,700 feet per second, or about seven miles. This is the same velocity as the ball would acquire in descending from an infinite height to the surface of the earth. Considering the ball as an "aërolite" (meteorite, the nucleus of a meteor, such as a fire-ball or shooting star), encountering the atmosphere or the earth's surface with this velocity, we are now enabled to compute the amount of heat generated by the concussion. Thirty-two pounds of water falling through a height of about 673 feet [772] obtains an increase of one degree by the concussion, thirty-two pounds of iron about nine degrees. The concussion due to the velocity of seven miles per second would generate heat enough to raise the temperature of the ball 280,000 degrees. In the same way it may be computed that if the ball descended to the surface of the sun it would acquire a velocity of 545 miles per second, and the heat-equivalent of the concussion is 1,800 million degrees. We may thus obtain an idea of the vast evolution of heat that might be caused by the process of the central aggregation of matter under the influence of its gravitating energy; nor does it seem necessary to look further for the origin or continuance either of the solar heat or

for that of the interior of our planet. While gravitation thus generates heat centripetally, radiation may be viewed as the escape of *vis viva* centrifugally.

"The modes of central collocation," or the process by which masses of matter become aggregated together, continues Mr. Waterston, and those "of dispersion," or the process by which that matter is eventually distributed in space around and distant from the central aggregation, "are equally mysterious: further than that they appear as parts of a dynamical cycle." While a body is falling towards the sun, *vis viva* is generated in certain points of space (this element of Mr. Waterston's cosmical philosophy, we believe, is altogether new and peculiar*), and conveyed to the centre by the body whose molecules move together in the passage downwards. The shock at the centre puts an end to this species of motion, but generates another, apparently of a vibratory kind, in the molecular elements, which has the effect of awakening a radiating power through space; or what may be viewed as a centrifugal transference of *vis viva* into the regions of space. "While this *vis viva* generated in space is inevitably carried to a centre before it is thus reissued" (the reader will remember that this assumed order of physical events is a special characteristic of the Mayerian philosophy), "we have the residual phenomenon of a central body augmented in mass by the process."†

The physical circle would be complete, if this central body had a motion through space which brought it into collision with another; both, it may be, exhausted of their central *vis viva*. The shock might be supposed capable of dispersing and projecting the component parts so far from the common centre of gravity as to renew the original nebulous form.

In M. Pouillet's researches on the solar heat, we have a striking view of the extreme slowness of the process of radiation from the sun. Making use of the same data, and converting the equivalent of solar radiation into quantity of matter of the density of water falling to the sun from remote regions, we may see by a little calculation that the quantity required by one year would cover its whole surface to the depth of 14·6 feet.‡ Thus, the sun may be supplied with heat by the mere descent of matter as aërolites (meteorites), to its surface.

It will be observed by the reader that a cardinal point in the science of celestial dynamics, as taught by all the modern advocates of the doctrine of the conservation of energy and the views of solar physics related to it, is to regard the sun as a body of the same general nature

* He has since developed his views respecting it in a paper, "On the Integral of Gravitation, and its consequents with reference to the Measure and Transfer or Communication of Force."—'Phil. Mag.' (May, 1858), Fourth Series, vol. xv. p. 329.

† This does not appear to be 'a residual phenomenon' in the particular sense in which, after Sir J. Herschel, that term has come to be used, because, in the philosophy we are considering, the molecules of the central body itself are supposed to be eventually dispersed again in the dynamical cycle.

‡ Professor W. Thomson finds, with Mr. Waterston's theory and data, that the depth of fallen matter would be thirty feet in a year, and remarks: "The velocity of impact which he has taken [as above] is 515 miles per second, in the calculation of which, unless I am mistaken, there must be some error."—'Trans. Roy. Soc. Edinb., vol. xxi., p. 66.

as the planets—consisting of the same chemical elements associated substantially in the same manner, and existing in the same states of aggregation—and being, in fact, as to its physical constitution, a kind of planet itself, differing little from the other planets, except in its position and magnitude, and partially in its temperature.

Accordingly, Mr. Waterston next proceeds to illustrate his views of the production, or at least the augmentation, of the sun, by a comparison with the earth. "When such bodies" (meteorites), "encounter our atmosphere, we have experience of the dazzling appearances of ignition or combustion manifested, and may judge of the effects of a continued shower of such bodies sufficient to cover the surface to a sensible depth. Each meteor signals an accession to the earth's mass, and brings also an accession of heat. If the united mass of all such meteors that impinge on our planet throughout one year, were made visible to us as one aërolite descending at regular yearly intervals, there is little doubt it would suggest to the mind of the most careless observer the probability of the earth growing in size by such periodical contributions. . . . From what is already known, we can predicate that a ball of iron [of which metal many meteorites almost entirely consist], entering the atmosphere with a velocity of six or seven miles a second [considerably inferior to that of some meteors], would instantly be melted, burnt, and converted into a red powder, and that before reaching the earth, it would probably be scattered by the aërial currents into comparatively so vast an area as never to be afterwards noticed."*

According to Mr. Waterston, if we suppose the sun to have been formed by the condensation of a nebulous mass, the mechanical force generated centripetally must originally have far exceeded the equivalent of radiation. If its present condition is stationary in respect of temperature, its mass must be increasing. If its mass is not increasing, its temperature must be diminishing, the annual loss being represented by about $\frac{1}{31}$ millionth of its mass lowered 1,800 millions of degrees, or the whole mass lowered about 33 degrees per annum, supposing it to have the specific heat† of iron—supposing, also, that it does not contract or become further condensed, because this would of itself engender *vis viva*. It may be shown that so small an increase of density as would diminish the sun's diameter 860 feet, represents the equivalent of the annual radiation. In the bodies that surround us, we remark that cooling and contraction are generally simultaneous. If such is the case in the sun, 33 degrees must be too high an estimate of the yearly loss of temperature. The ratio between the diminution of bulk and of temperature, were it known in the case of the sun, would enable us to compare their mechanical equivalents. The *vis viva* produced by the diminution of bulk would be classed with the phenomena of what is called latent heat in liquids, solids, and gases. It would seem from these computations, which rest upon M. Pouillet's data, that the probable annual loss of temperature in the sun is by no

* Mr. Joule, in 1847, had deduced these consequences from his own views of the mechanical theory of heat. See 'Phil. Mag.,' May, 1848, p. 349; August, 1862, p. 122; July, 1864, p. 000.

† The *specific heat* of any substance is the amount of heat which a given quantity of it must acquire or must part with to rise or fall by 1 deg. of temperature.

means inconsiderable in absolute amount, but its relative value in respect to the temperature of the sun may be, and probably is, quite insignificant.*

Arrived at this deductive conclusion, Mr. Waterston proceeds to inquire whether any mode of obtaining a probable estimate of the temperature of the sun's radiating surface can be devised, an inquiry which finally led him to repeat with more perfect apparatus the experimental researches on the subject he had instituted some years before, of which repetition we have already stated the result.

The next event in this history was still more remarkable. Mr. William Thomson, Professor of Natural Philosophy in the University of Glasgow, a mathematician trained in that of Cambridge, and the associate of Mr. Joule in his later experimental researches on the relations of heat to mechanical force, had been engaged for some years in communicating to the Royal Society of Edinburgh, a series of memoirs on the Dynamical Theory of Heat. In April 1854, a paper by him, "On the Mechanical Energies of the Solar System," was read before that body, and afterwards published in its "Transactions." This begins with the remark we have cited in page 43, note, and after stating that Mr. Joule had then recently pointed out the true relation of heat to force, in every electric, magnetic and chemical action, as well as in the ordinary operations of mechanics, proceeds thus: "And it is a simple corollary from this that the sun, within the historical period of human observation, has emitted hundreds of times as much mechanical energy—once every twenty years or so—as that of the motions of all the known planets taken together. The energy, that of light and radiant heat, thus emitted is dissipated always more and more widely through endless space, and never has been, probably never can be, restored to the sun, without acts as much beyond the scope of human intelligence as a creation or annihilation of energy, or of matter itself, would be. Hence the question arises, what is the source of mechanical energy, drawn upon by the sun, in emitting heat to be dissipated throughout space?"

In considering what reply can be given to this question, Professor Thomson first finds reason to conclude that all the theories of the sun's activity, "which have been yet proposed, as well as every conceivable theory, must be one or other, or a combination of the following three:

"I. That the sun is a heated body losing heat.

"II. That the heat emitted from the sun is due to chemical action among materials originally belonging to his mass, or that the sun is a great fire.

"III. That meteors falling into the sun give rise to the heat which he emits."

In previous communications he had pointed out that the first hypothesis is quite untenable, primitive heat within the sun, as he now

* The experimental result on this subject obtained by Sir J. Herschel nearly agrees with that of M. Pouillet—so nearly, indeed, as to confirm the accuracy of both in an investigation so delicate and difficult. The English philosopher found the sun's radiation to be adequate to melt at its own surface 43·39 feet in thickness of ice *per minute*, while his French contemporary found 38·7 feet for that thickness. The former takes 40 feet as a probable mean, and from this he calculated the illustration cited in our former article, Companion to the Almanac for 1864,' p. 49.

added, is not a sufficient source for the emission of radiant light and heat from it which has continued without sensible (if any) abatement for 6,000 years. The second theory, he remarks, has probably been conceived of by all men in all times, and considered as more or less probable by every philosopher who has ever speculated on the subject. In beginning to consider the third theory, with what appears to us to be a singular inconsistency, as he devotes great labour in this very paper, to its development and numerical expression, and, as he then thought, to its demonstration in the form in which he adopted it, he depreciates it by remarking, "The third may have occurred at any time to ingenious minds, and may have occurred and been set aside as not worth considering;" adding, "but was never brought forward in any definite form, so far as I am aware," until Mr. Waterston made public the "remarkable speculation," of which we have already given an account, and which Professor Thomson designates as "a form of what may be called the Gravitation Theory of Solar Heat, which is itself included," he says, "in the general meteoric theory."* The objects of the communication are then stated to be, to consider the relative capacities of the second and third hypotheses to account for the phenomena; to examine the relation of the gravitation theory to the meteoric theory in general; and to determine what form of the gravitation theory is required to explain solar heat consistently with other astronomical phenomena.

After some preliminary observations on the meteoric theory, he proceeds to test the adequacy of the second theory, that the sun is merely a burning mass without a supply of either fuel or dynamical energy from without, arriving at the conclusion, that, on the most favourable considerations, a mass as large as the sun is at present would burn away in 8,000 years, and that if it has been burning at the same rate in past time it must have been of double diameter, of quadruple heating power, and of eight-fold mass only 8,000 years ago. "We may quite safely conclude then," he infers, "that the sun does not get its heat by chemical action among particles of matter primitively belonging to his own mass, and we must therefore look to the meteoric theory for fuel, even if we retain the idea of a fire;" but, on investigation, he finds that the *combustion* of meteors may be quite disregarded as a source of solar heat, as Mayer had previously determined.

Mr. Waterston, as we have seen, had proposed the theory, that solar heat is produced by the impact of meteors falling from *extra*-planetary space, and striking the sun's surface with velocities which they have acquired by its attraction. But Professor Thomson, concluding from his own investigation that the source of energy from which solar heat is derived "is undoubtedly meteoric," determines also that the principal source, perhaps the sole appreciably efficient source, is in bodies circulating round the sun at present *inside* the

* What is here termed "the gravitation theory" did not exist until Mayer proposed it, and then remained unknown until its reproduction by Mr. Waterston. Unless the philosophy of meteors and meteorites is to be regarded as transcending and comprehending all other cosmical and physical science, surely the "meteoric theory" of the sun's heat must be considered to be included in the "gravitation theory."

earth's orbit, and probably seen in the sunlight by us and called "the zodiacal light."

The advocates of the mechanical theory of heat, or, it may rather be said, those of the more comprehensive principle of the conservation of energy, will doubtless infer, and with reason, that the distinct and independent, though successive production, by three inquirers—and indeed by four, as we shall presently find—of the application of that principle to the theory of the source of the solar energies, itself constitutes powerful evidence of its truth. Not only was Professor Thomson unacquainted with the essential identity of his views with those of Mayer developed six years before, even in some of their most characteristic particulars;* but the late Rev. Baden Powell, Savilian Professor of Geometry in the University of Oxford, in his third report on radiant heat, presented to the British Association for the Advancement of Science in 1854, constituting one of the valuable series of documents issued by that body, one of the principal objects of which is the history of the progress of science, is quite silent on the subject of Mayer's original and prior labours, while giving an explicit account of Prof. Thomson's theory.

We need not, however, enter further into these earlier researches of Prof. Thomson on the source of the sun's energies, because their results, in his own judgment, are in a great degree superseded by those of his subsequent consideration of the subject. In 1861 he assumed that the sun is an incandescent liquid now losing heat, and that its heat—we are here citing his last-published views on the subject—cannot have existed in it "through an infinity of past time, since, as long as it has so existed, it must have been suffering dissipation, and the finiteness of the sun precludes the supposition of an infinite primitive store of heat in his body. The sun must, therefore, either have been created an active source of heat at some time of not immeasurable antiquity, by an overruling decree; or the heat which he has already radiated away, and that which he still possesses, must have been acquired by a natural process following permanently established laws. Without pronouncing the former supposition to be essentially incredible, we may safely say that it is in the highest degree improbable, if we can show the latter to be not contradictory to known physical laws."

After stating that the meteoric theory of the supply of energy to the sun had "been first proposed in a definite form by Mayer, and afterwards independently by Waterston," and alluding also to his own modification of it, he says, "we may now believe," for certain reasons previously adduced, "that all theories of complete, or nearly complete,

* "There could scarcely be a closer coincidence between two independent scientific memoirs than that subsisting between the essay of Dr. Mayer ['Celestial Dynamics'] and the paper of Prof. Thomson ['Energies of the Solar System'], published six years subsequently. Thomson considers and rejects the assumption that the sun is a heated body, losing heat; Mayer did the same. Thomson considers and rejects the assumption that the heat of the sun is due to chemical action; so did Mayer. Thomson considers and embraces the theory that meteors falling into the sun give rise to his heat; so did Mayer. Thomson arrives at the conclusion that the main source of solar light and heat is the zodiacal light. This was also Mayer's conclusion. Their calculations run parallel, and their deductions from them are the same." Tyndall's "Notes on Scientific History," 'Phil. Mag.,' July, 1864.

contemporaneous meteoric compensation" for the sun's loss by radiation, must be rejected; but we may still hold "that [as Prof. Thomson had affirmed in 1854, in the memoir first mentioned] *meteoric action . . . . is . . . . not only proved to exist as a cause of solar heat, but it is the only one of all conceivable causes which we know to exist from independent evidence.*"

"The form of meteoric theory which now seems most probable, and which was first discussed on true thermodynamic principles by Helmholtz, (in February, 1854,) consists in supposing the sun and his heat to have originated in a coalition of smaller bodies, falling together by mutual gravitation, and generating, as they must do, according to the great law demonstrated by Joule, an exact equivalent of heat for the motion lost in collision."

"That some form of the meteoric theory is certainly the true and complete explanation of solar heat, can scarcely be doubted, when the following reasons are considered:"

"(1.) No other natural explanation, except by chemical action, can be conceived."

"(2.) The chemical theory is quite insufficient, because the most energetic chemical action we know, taking place between substances amounting to the whole sun's mass, would only generate about 8,000 years' heat."

"(3.) There is no difficulty in accounting for 20,000,000 years' heat by the meteoric theory."

"It would extend this article to too great a length, and would require something of mathematical calculation, to explain fully the principles on which this last estimate is founded. It is enough to say that bodies, all much smaller than the sun, falling together from a state of relative rest, at mutual distances, all large in comparison with their diameters, and forming a globe of uniform density equal in mass and diameter to the sun, would generate an amount of heat, which, accurately calculated according to Joule's principles and experimental results, is found to be just 20,000,000 times Pouillet's estimate of the annual amount of solar radiation;" with which, as we have already seen, Sir J. Herschel's, though obtained by a different method of investigation, very nearly agrees.

"It seems, therefore, on the whole," Prof. Thomson concludes, "most probable that the sun has not illuminated the earth for 100,000,000 years, and almost certain that he has not done so for 500,000,000 years. As for the future, we may say, with equal certainty, that inhabitants of the earth cannot continue to enjoy the light and heat essential to their life for many million years longer, unless sources now unknown to us are prepared in the great storehouse of creation."

Before we terminate our review of Prof. Thomson's researches and speculations on the theory of the sun, it is requisite to add a few remarks on the recent history of the subject. According to our reading the "meteoric theory" of the solar energy was not only first proposed "in a definite form" by the physician of Heilbronn, but is due to him altogether, as its original author in any form. Mr. Joule (p. 58, note), certainly independently, afterwards affirmed the principle,

but did not apply it to the sun. And what Prof. Thomson regards, as above, the most probable form of the theory was first discussed "on true thermodynamic principles," not by Prof. Helmholtz, in 1854, but also originally by Mayer in 1845 and 1848; though its reproduction by the former, we happen to know, was made without his having any knowledge that it had been previously enunciated and discussed by his now distinguished countryman.

It has been deemed best to present the reader with Prof. Thomson's views in unbroken succession; but between the period of their first announcement and that of their recent modification, the sun itself may be said to have taken a part in the development of the meteoric theory of its heat. In the former article ('Comp. 1864,' p. 32, note) allusion was made to an outburst of light over a great sunspot, witnessed respectively by Mr. Carrington and Mr. Hodgson, on the 1st of September, 1859. Mr. Carrington states that when observing the sun on that day, "within the area of the great 'north group' of spots" (the size of which had previously excited general remark), "two patches of intensely bright and white light broke out;" each having, as appears by the diagram he gives, a rudely crescentic form, with rounded cusps having their concavities opposite each other, one slightly exceeding the other in magnitude, and distant from each other about or something more than the length of the longest. "The brilliancy" of the outburst was fully equal to "that of direct sunlight." Within a minute "it was much changed and enfeebled. Very shortly afterwards the last trace was gone," and no recurrence took place. The patches had travelled before their disappearance "considerably from their first position, and vanishing as two rapidly fading dots of white light. The instant of the first outburst was not fifteen seconds different from 11h. 18m. Greenwich mean time, and 11h. 23m. was taken for the time of disappearance. In this lapse of five minutes, the two patches of light traversed a space of about 35,000 miles. . . . The impression left upon me is that the phenomenon took place at an elevation considerably above the general surface of the sun, and, accordingly, altogether above and over the great group in which it was seen projected. Both in figure and position the patches of light seemed entirely independent of the configuration of the great spot, and of its parts, whether nucleus or umbra."

Mr. Hodgson describes this phenomenon as having been "a very brilliant star of light, much brighter than the sun's surface, most dazzling to the protected eye, illuminating the upper edges of the adjacent spots and streaks, not unlike in effect the edging of the clouds at sunset; the rays extended in all directions, and the centre might be compared to the dazzling brilliancy of the bright star *a Lyræ* when seen in a large telescope with low power. It lasted for some five minutes." The greatest dimension of the group of spots appeared to have been about 60,000 miles.

It was afterwards found that at the very moment when this phenomenon was observed, the three magnetic elements, as indicated by the instruments at the physical observatory of the British Association at Kew—that is, the horizontal force causing the declination or variation of the magnetic or compass-needle, the vertical force evidenced

in the action of the dipping-needle, and the intensity or amount of total magnetic action—were simultaneously disturbed. In fact, a great magnetic storm commenced at that time.

This most interesting and apparently unique phenomenon imparted a new zest to the meteoric theory of the origin of solar light and heat. Mr. C. Piazzi Smyth, her Majesty's Astronomer for Scotland, and Professor of Practical Astronomy in the University of Edinburgh, unacquainted, like most of his contemporaries, with the researches of Mayer, and attributing to Mr. Waterston the first suggestion of the theory, and its more explicit extension to Prof. Thomson; taking for granted also that the sun is fed by meteors, from wherever derived; pointed to this conclusion as indicating a very possible interpretation of the phenomenon, and to that, reciprocally, as seeming greatly to confirm the theory.

"It appears, indeed, from the recorded observations," he proceeds to say, "quite certain, that two bodies elongated in the direction of their motion, moved rapidly along above the actual surface of the sun, suddenly bursting into view by means of their emitted light, and then dying gradually out after having described an arc nearly parallel with the ecliptic, and at the rate of about 7,000 miles in a minute."

"Now here we have a velocity such as nothing we know of, short of orbital motion in the neighbourhood of the sun, can give. But, as in the immediate neighbourhood of the sun, or close to his surface, where we may presume the observed bodies to have been, the true orbital velocity is about 16,000 miles in a minute, we have a destruction, from some mechanical resistance, of 9,000 miles of motion in a minute; which, multiplied into the mass of the bodies so retarded, would at once indicate the heat they ought to have given out; something so great, doubtless, as to be necessarily accompanied by the intense light which was testified to" by the observers.

"In all this we may see, *mutatis mutandis*, precisely what has often been observed on the earth, when a meteorite, in the act of falling to it, shines out brilliantly in the clear blue sky at noon-day, like a speck of the sun itself; and describes thus luminously, in our upper atmosphere, the last part of its orbital motion."

"Not the most ardent admirer of the theory had once apparently expected that human eye would ever be able to distinguish an individual meteor falling into the sun, and visibly adding to his fires; yet here does really seem to have been an instance." Mr. Waterston, we may add, with other advocates of the theory, has since accepted it as such.*

In the former allusion to this outburst of light on the sun, it was suggested that if it had taken place on the limb, it would probably have constituted an example of the rare occurrence of a bright projection beyond it, of which other examples have been observed, as described in the former article ('Comp. 1864,' p. 30-32, 34). Should

* See Mr. Waterston's paper *On Certain Inductions with respect to the Heat engendered by the possible Fall of a Meteor into the Sun*, &c. Monthly Notices of the Royal Astron. Soc., March 9, 1860, vol. xx., p. 197—201. Memoirs, vol. xxix. The only conclusions at which he could arrive were so extravagant, he says, that they only show the insufficiency of the data, to remedy which he instituted his researches on the temperature of the solar surface. But he has not since returned to the subject.

this be well-founded, additional interest will be imparted to the observation by astronomers of these bright projections beyond the sun's edge; and the advocates of the meteoric theory of its energies may point to them as other examples of the disturbance in the sun occasioned by the fall of meteorites into it, and also to the simultaneous magnetic storm of September 1st., 1859, as evincing the augmented solar activity resulting in that particular case. But, however this may be, the magnetic disturbance proves, undoubtedly, that the sun and the earth are in some manner magnetically bound together; that disturbance being merely a particular case of an influence perpetually exerted by the luminary and received by the planet.

The conclusion derived by Kirchhoff from his spectrum observations, that the vapours of certain metals are present in the sun's atmosphere, was noticed in the former article. ('Comp. 1864,' p. 36.) To the metals there mentioned we may now add sodium, magnesium, chromium, calcium, also observed by Kirchhoff, and aluminium and strontium, together with hydrogen, one of the elements of water, observed by Angström. It will naturally occur to the reader to inquire whether the chemical constitution of the solar atmosphere, as thus at least partially shown, when compared with that of meteorites, affords any confirmation of the meteoric theory of solar action, on the ground that, if meteorites are perpetually falling into the sun, their elements ought to be discoverable in it. Now ten, or perhaps more, of the elements of the solar atmosphere are also those of meteorites, iron, nickel, cobalt, chromium, and magnesium being characteristically such. But the non-metallic base silicon, which, in union with oxygen as silica, is an equally characteristic element of meteorites, is absent in the sun, according to our present knowledge, in which also other elements of meteorites, including oxygen itself, are not known to be present. It must be remembered that our knowledge of meteorites is confined to those which fall upon the earth, in the crust of which all their elements are also found, but many more elements exist in the earth's crust which meteorites have not yet been discovered to contain. However, we conceive this question to be one of apparent importance only, for according to the Mayerian views the planets, as well as the sun, have been formed by the union of cosmical masses, which, therefore, must be conceived to contain the elements of both. On the other hand, as no element of meteorites is peculiar to them, there is nothing in their chemical constitution which is incompatible with the theory.

But the history of modern solar science does not end here. Prof. Tyndall, as we have seen, in England, and M. Verdet in France, have zealously advocated the claims of Dr. Mayer as the sagacious and original generalizer of the principle of the conservation of energy, which, in its application to the sun, we have traced through its successive enunciations. The English physicist has given his adhesion to the belief of the adequacy and consistency of Mayer's philosophy of the sun, without, however, affirming its truth as a physical theory. But he has fully adopted the views of Mayer as to the universality of solar action as the cause of terrestrial phenomena, including those of organic life. Thus, he says, "The earth's atmosphere contains

carbonic acid, and the earth's surface bears living plants; the former is the nutriment of the latter. The plant apparently seizes the combined carbon and oxygen, tears them asunder, storing up the carbon, and letting the oxygen go free. By no special force, different in quality from other forces, do plants exercise this power. The real magician is here the sun. But we cannot stop at vegetable life; for this is the source, mediate or immediate, of all animal life. In the animal body, vegetable substances are brought again into contact with their beloved oxygen, and they burn within us, as a fire burns in a grate. This is the source of all animal power, and the forces in play are the same in kind as those which operate in inorganic nature." . . . . . The sun "rears, as I have said, the whole vegetable world, and through it the animal. The lilies of the field are his workmanship, the verdure of the meadows, and the cattle upon a thousand hills. He forms the muscle; he urges the blood; he builds the brain. His fleetness is in the lion's foot, &c. &c. He builds the forest and hews it down—the power which raised the tree, and which wields the axe, being one and the same. The clover sprouts and blossoms, and the scythe of the mower swings, by the operation of the same force."

Now, we think that Prof. Tyndall here exceeds his master in attributing the phenomena of organic nature, including those of human life, exclusively to physical sources. It might be admitted, indeed, that these are the consequences of Mayer's ostensible reasoning, were it not for his remarkable and weighty proviso, or properly speaking, recognition of the truth, that the animal organism has, as well as its "physical," its "psychical side," under which he includes "the nervous influence," and that the motions of the steamship are performed "in obedience to the volition—the spiritual influence," of the steersman and engineer. Are not the axe of the woodman and the scythe of the mower, wielded primarily by their volition acting through the "psychical side," the nervous influence, of their muscles? Do we not witness in these actions the exertion of the same "spiritual influence" which guides the ship, though the "physical force" of coal is required for its motion? And are not the helm, the axe, and the scythe all moved even by the same agency, though the operation of the sun is required to enable the muscles of the human agents to act in employing those instruments?

But these extreme and exclusive views have not been asserted without reply from an appropriate place. Mr. Bentham, an eminent botanist, the President of the Linnæan Society, the province of which embraces both the organic kingdoms of nature, and therefore virtually includes their physiology, has deemed it fitting to urge, in his anniversary address from the chair (May 24, 1864), certain considerations in limitation of that self-sufficiency, so to speak, in vital phenomena claimed by Mayer and his expositor for the sun; and although these are intended to correct the error into which the ordinary reader might, he thinks, be led by these passages of Prof. Tyndall, without explanation, "with regard to some great biological facts," and to the actual and operative existence of what Mr. Bentham terms "the power" of life, yet, at the same time, they

instruct us on the highest authority as to what the sun does not and cannot effect in the progress of organic nature.

"Life," Mr. Bentham admits, "cannot indeed be set in action without the operation of heat-force; but on the other hand the sun cannot build a tree without the assistance of life. . . . . In the present state of science we have as yet no prospect of proofs that any new life is created, that any new living being is built, by the sun or any other force, out of matter organic or inorganic*. . . . . Nor can our most powerful instruments perceive the moment when the first embryo-cell receives that impress which has irrevocably determined the form which the perfect being is to assume, within those narrow limits, which neither impregnation, nor any other influences set in action by the sun, can ever make it exceed. . . . .Life may lie dormant for a long (but not perhaps indefinite) succession of years; its action may be absolutely imperceptible or limited to the resistance of disorganization, until recalled into more active operation, by the action of the sun on surrounding influences; but if during the dormant period (of the seed, egg, &c.,) life has once ceased, nothing will restore it: the action of the same sun upon the same surrounding influences will produce decomposition, not growth."†

There can be no greater proof, however, of the reality of the advance now making in the knowledge of nature than the manner in which the objects of several or many branches of science, according to our necessarily artificial classification of them, are thus brought together under one point of view, and even their combined study rendered indispensable for further progress. Nothing apparently can be more distinct as objects of human scrutiny and investigation, than the natural history—meaning the entire knowledge—of Plants and Animals—and especially the laws of their growth through all its stages, or their physiology—and the phenomena of the sun and its radiation. Yet, when science rises to its highest objects, in consequence of the dual action, on which, as we believe, the phenomena of life as displayed in nature depend,—Physiology requires the consideration of the nature and specific powers of the solar forces, and the history of the Sun cannot be fully investigated without reviewing its concern in the manifestation of organic life. But while the sun is essential to the manifestation of that life, it cannot be its source. The most rational inference we think, from all that we know of both subjects, is that a communication of life—in a manner which perhaps the idea of flowing into best represents—to matter prepared for its reception by the operation of the sun, is the active cause of organic phenomena, the stupendous activities of the sun being worthily employed—and it is their highest work—in thus rendering matter recep-

* The following passage from Prof. Thomson's paper on the age of the sun's heat appears to involve a similar view of the necessity of life, and therefore of real vital action, whatever the solar powers may be:—"It is impossible to conceive either the beginning or the continuance of life without an overruling creative power; and therefore no conclusions of dynamical science regarding the future condition of the earth can be held to give dispiriting views as to the destiny of the race of intelligent beings by which it is at present inhabited."

† 'Journal of the Proceedings of the Linnæan Society,' vol. vii. pp. 19—23. The above is a small part only of Mr. Bentham's commentary on Prof. Tyndall's views, which he combats in detail.

tive of life, which itself originates in a sphere above nature. But the absolute necessity of solar action on this account, to the existence of a living organism, appears to have led to the erroneous impression that nothing else is necessary to or involved in that existence. According to Dr. Carpenter, life, which he terms "a germinal capacity," is the "power of utilizing, after its own particular fashion, the heat which it receives [from the sun], and of applying it as a constructive power to the building up of its fabric after its characteristic type." This surely, is reducing the idea of life to its lowest possible terms, being almost an example of the rhetorical figure called *meiosis* or extenuation. Yet the definition, inadequate, as we agree with Mr. Bentham in considering it to be, must either be admitted to embody the idea here expressed of influent life, or be regarded as unintelligible.

We are now prepared to appreciate the change made by Sir J. Herschel (see page 44), when declaring the universality of the sun in the causation of terrestrial phenomena, from the equivocal expression used by him in 1833, that "By the vivifying action of the sun's rays, vegetables are *elaborated* from inorganic matter," to that he employed when he first repeated the statement ('Outlines of Astronomy, 1849'), "are *enabled to draw support* from inorganic matter." This is undoubtedly the fact, while they are not themselves elaborated from it by the sun, though this is what Professor Tyndall assumes, in consequence of disregarding the vital element in the duality of organic action;* and ignoring that production of organized forms which distinguishes vital from inorganic activity, and which it is simply a gratuitous assumption to suppose that either the sun or a substratum of "molecular machinery" can effect.

This will be the proper place in which to notice Sir J. Herschel's present views relative to the source of the solar energies. Excluding, like Mayer and Thomson, "fire, kept up by fuel and air," as out of the question, "there remain only," he says, "three possible sources of them, so far as we can perceive,—electricity, friction, and vital action. The first of these was suggested by the late Sir William Herschel in 1801; the second, at least as a possibility, though without indicating any mode by which the necessary friction could arise, by myself in a work [Treatise on Astronomy] published in 1833. The theory at present current of it is founded on what may not unfairly be considered a further development of this idea, the friction being supposed to arise from meteoric matter circulating round the sun, and gradually subsiding into it, and either tearing up its surface, or ploughing into its atmosphere." Afterwards, having described the *willow-leaves* of Nasmyth (as noticed in the former article, p. 22-25), and concluded that they are "separate and independent sheets, flakes, or scales, having some sort of solidity;" he proceeds, "and these flakes, be they what they may, and whatever may be said about the dashing of meteoric stones into the sun's atmosphere, &c., are evidently the *immediate sources of the solar light and heat*, by whatever mechanism or whatever processes they may be enabled to develop, and, as it were, elaborate these elements from the bosom of the non-

* See an article headed *Vitality*, in 'The Reader' for October 29, 1864, vol. iv. p. 545.

luminous fluid in which they appear to float. Looked at in this point of view, we cannot refuse to regard them as *organisms* of some peculiar and amazing kind; and though it would be too daring to speak of such organization as partaking of the nature of life, yet we do know that vital action *is* competent to develop both heat, light, and electricity." In agreement with this the author has more recently observed:—"In forming our judgment as to the nature of these bodies, it deserves especially to be borne in mind that nature presents to our experience no class of bodies, *occurring by millions, all of one definite form not spherical, and all nearly of one uniform size*, among masses of *unorganized* matter."*

There is much weighty matter for reflection in these thoughts of the astronomer and philosopher, whose study of the heavenly bodies has extended through half-a-century, and who, during that period, has united with it, and applied to their investigation, the study of terrestrial physics in every department, being always at the level and often in advance of the science of the time. They seem to announce the dawn of a new solar philosophy. We have already seen, that though deriving all terrestrial activities from the sun, he virtually excepts organic action, and he now, as a last alternative of conceivable sources of its energies, attributes them to *vital action*. As he regards this as prior in its nature to heat, light, and electricity, all which, he remarks, it is "competent to develop," it is evident that he does not look upon it merely as one of the correlates of those forces, to which rank there is at present a strong tendency to reduce vital action, of which the views of Prof. Tyndall are an example, but as something of a higher order, which must be believed to originate in a sphere above nature.

Of the question as to the possible organization of the solid elements of the sun's surface, however, we conceive a very different view must be taken. The variation in form and size now admitted by Mr. Nasmyth to exist among the *willow-leaves*, in accordance both with the accounts of them given by other observers, and with the statements of those astronomers who hold that they are phenomena of the solar surface already well known, appears to deprive of its force the argument for their being *organisms* derived from their number and their supposed definiteness and uniformity of figure and magnitude. We can only judge of solar physics, and, so to speak, biology, by those of the earth, and we know that organized beings on the earth are confined to a very small range of temperature, varying but very little either above or below from what we term "common temperatures," within which only can they exist, and that a heat much below that of ignition will destroy them. To argue that this is merely a question of the chemical nature of the materials organized would be fallacious. We must reason from terrestrial premises, and they evince on the other hand that the materials primarily essential to organized beings are those whose combinations are decomposed, consumed, or rendered volatile at temperatures approaching ignition, whether oxygen be present or not, their organization ceasing altogether, and their sub-

* 'Good Words,' April, 1863, pp. 280, 282; 'Outlines of Astronomy,' 7th edit. p. 696.

stance being reduced to the condition which it would have had if it had never been organized. We have every reason to believe that such also must be the case on the other planets; that those "nearest the sun may not be excessively hot, nor those most distant excessively cold; and that, comparatively speaking, a great uniformity of surface temperature pervades the solar system; that the tendency of our present knowledge is to indicate," not merely "that organic nature not essentially different from that of the earth may exist on any of the other planets,"* but that it cannot, by reason of that uniformity of temperature, essentially differ from terrestrial organic nature.

We infer, therefore, from the high temperature of the sun, that its phenomena are characteristically and exclusively Inorganic, while we are disposed to maintain that of all inorganic existences it is the highest in order and the type of all below it, the substances of which it is essentially composed being matter in its highest and most elementary character. But terrestrial inorganic bodies, however amenable to the sun's action, and however essential that action is to their activities, manifest a formative tendency *analogous* to vital action, though not identical with it, and of an inferior nature, but which, we think, all knowledge teaches, flows, like that, into matter of every kind. Such bodies, of which a crystal or a piece of glass (to which forms of matter all solids are referable) is an example, are enabled to manifest this formative tendency by the effect upon them of the solar radiation, as a plant or an animal is enabled to manifest life. The action, with respect to such bodies, and the elements common to the earth and the sun (pages 64, 65), on whichever they exist, is thus *dual*, as with organic beings, in which, however, the higher principle of activity is influent life itself, causing true vital action; the lower, in all cases, whether organic or inorganic, being the energy proper to the sun.

The ascription of the sun's energy to vital action we conceive to be, as an approximation, an immense advance in the philosophy of the subject, and worthy of its author. By the discriminations now suggested it may be understood in conformity with our actual knowledge.

E. W. Brayley.

London Institution, October, 1864.

* Syllabus of Lectures on Astronomical Physics, delivered at the London Institution in 1864.

IV.—HEALTH OF THE BRITISH ARMY IN INDIA.

PUBLIC attention has recently, for a second time, been drawn to a startling revelation concerning the state of the British Army in India. The leading facts were known officially in 1863, but they have been more fully divulged in 1864. Happily, also, the application of remedial measures is further advanced now than it was twelve months ago.

How many men die in battle, or from wounds received in battle, in an army of given size within a given period, depends of course on the state of peace or war in which the country may be placed; but it is a very different question how many men die from *preventable* causes, causes which we have it in our power to grapple with. When we are told, by Commissioners who have made every effort to get at the truth, that the nation is losing from *three to four hundred thousand pounds* a year by the deaths and illnesses of soldiers in India who might have been kept in health by good management, it is indeed time to set about a remedy. The ascertainment of the facts thus arose. In May, 1859, when Lord Stanley was Secretary of State for India, a Royal Commission was appointed to inquire into the rate of sickness, mortality, and invaliding in the British and Native armies of India; the class of diseases from which such sickness and mortality mostly arise; the probable causes, whether due to imperfections in climate, locality, barracks, hospitals, drainage, water supply, diet, drink, dress, duties, or habits of the men; the relative healthiness of different military stations in India; the practicability of selecting new stations in substitution of such as may now be unhealthy; the best mode of constructing barracks, huts, hospitals, and tents, in such a climate as India; the existing state of army medical and sanitary police at the several stations; and the possibility of establishing a trustworthy system of military statistics. Lastly, they were invited to recommend remedial measures for such evils as might be found to exist. The duties thus assigned to the Commission tend to show that the state of the Indian army had already been recognised as one of great gravity. Three or four years were spent in the inquiry. The Commissioners originally named were Mr. Sidney Herbert, General Sir Hussey Vivian, Colonel Sir Thomas Proby Cautley, Dr. Alexander, Colonel Greathead, Dr. Farr, Mr. Ranald Martin, and Dr. Sutherland. Mr. Sidney Herbert, when he became Lord Herbert of Lea and Secretary of State for War, could not attend to the duties of the Commission; and he was succeeded as chairman by Lord Stanley, when the fall of the Derby ministry released the latter nobleman (Lord Stanley) from the duties of the India secretaryship. General Vivian resigned on account of other duties; and Dr. Alexander, Director-General of the Army Medical Department, died. These events, and the changes consequent on them, greatly retarded the labours of the Commission; but the chief delay arose from the necessity for obtaining written returns and reports from almost every part of India. These written reports were submitted by the Commission to Miss Florence Nightingale, a lady whose untiring exertions for the good of the soldier, directed equally by genuine kindness and practical

sagacity, have won for her the admiration of all classes of the community, and almost a reverential affection from the soldiers themselves. At length, in May, 1863, the labours of the Commission ended. Two large folio volumes have been published, one containing the Report, the oral evidence, and Miss Nightingale's comments on the papers received from the military stations; the other containing these papers in full. The volumes being very bulky and costly, they were at first only printed for official use; but a handy octavo volume has been published, containing the Report and a *précis* of the evidence; while Miss Nightingale's comments have been published as a distinct pamphlet. The two folio volumes have also been made more accessible than before, though their details will always remain unknown except to a very small number of persons.

It is perfectly amazing to see the kind of information contained in the reports from the several towns and military stations touching sanitary matters. Never before have such revelations been made public. The worst dens in the worst places in England are better than even the best native towns in India; and the barracks partake, in a most unfortunate degree, of the characteristics of those native towns. Miss Nightingale, commenting on matters which it must have been painful to her to read at all, tells Lord Stanley that the cases to which her comments apply are not by any means the worst; and she uses a bit of pleasantry to express this: "There are things so much worse in the Sectional (Stational) Reports than what I have chosen to give, that I must say to those who call my 'bonnet ugly,' 'There are much uglier bonnets to be had.'" Ugly, indeed, are the Indian 'bonnets' which this lady found in the Reports. She says: "Some will think the facts given are the exception, not the rule. If there be an exception, *i. e.*, if there be a single station in India with a good system of drainage, water-supply, and cleansing for itself and its bazaars, with properly planned and constructed barracks and hospitals, and provided with what is necessary for occupation and health—a station where the men are not encouraged to drink, and where they are provided with rational means for employing their time—to such a station these remarks do not apply. But I have not found it. Everywhere there are grievous sanitary defects, which, wherever they exist, can lead only to sickness and loss of life to the degree in which they exist. And let those who doubt whether this representation is true, taken as a whole, look at the Stational Reports for themselves. In the papers sent me, I find an amount of evidence showing the causes of disease in the Indian army, such as, perhaps, was never before brought together on any similar subject."

That some cause or other, or some group of causes, does mow down our soldiers in India with fearful rapidity, is amply shown by the statistical returns obtained from the several stations. In the middle of 1861 (taking that year as an exemplar), out of 227,000 British troops, of all arms, no less than 82,000 belonged to regiments serving in India; insomuch that, if all took their turn of Indian service, every regiment would have four years of Indian influences, out of eleven; but as some regiments never go to India, the service falls more heavily on the rest. One remarkable case was that of the

84th Foot, which went out 1,064 strong in 1842; in 1859 it returned with only 93 of the same men left. In the middle of 1862, the military force in India consisted of 74,451 Europeans, and 120,034 Native troops, besides various corps midway in character between soldiers and police. Now, taking the 'soldier's age' to range between 15 and 45, it is found that in every thousand male inhabitants of England and Wales within those limits of age, 9 die annually; that is, 8 in the healthy country districts, 9 in the average towns and villages, 12 in the unhealthy spots; making an average of about 9 in all. But what are the figures presented in India? Taking all the presidencies and stations, and the whole period from 1800 to 1856 (just before the Mutiny began), it is found that the average mortality per thousand soldiers was no less than 69 annually. Allowing 9 per thousand for such natural causes as occur in England, there were 60 per thousand more due to Indian causes, whatever they may be—60 men out of every 1,000 *sacrificed* every year, in the prime of life, to be replaced by others at great cost by the nation! In England, a few years ago, the soldiers' mortality was 17 per thousand, but it is now lessening under the influence of sanitary improvements; and this shows what we have to strive for in the Indian army. It is found that the mortality of *war* in India is so small, compared with the mortality due to other causes, that it only affects the general average in a very small degree. Dr. Farr has calculated, from the data supplied to him, that the "expectation of life," to a soldier in India, aged 20, is only 17·7 years, against 39·5 years in England; that is, life is shortened 21·8 years. The expectation of life to a soldier who returns to England at the age of 40 is 15 years; whereas, to Englishmen of that age residing at home, it is 26 years. This is another mode of saying that life is materially shortened in the Indian service. As matters now stand, or have hitherto stood, it requires 10,000 recruits a year to keep up an army of 85,000 British troops in India, even when no particular wars are going on. "The half of a regular army so constituted," say the Commissioners, "consists of men who have served less than six years; and not more than a fourth of the men are veterans of ten years' standing, on whom the discipline and solidity of an army greatly depend. It is evident that the recruiting is more difficult, and that the losses from other causes than death are greater, in an unhealthy than in a healthy army; for the invaliding, the desertion, and the discharges from all causes, are influenced by sickness." To one illness of an English labourer at home there are two to an English soldier, and four to an English soldier serving in India. Fever, dysentery, diseases of the liver, and cholera, are the main forms in which this illness appears in India. During the whole of the dreadful Mutiny of 1857–8, only 586 British soldiers were actually killed in battle, or died obviously of wounds: this number seems so incredibly small, that we could only venture to name it on the Commissioners' own authority; but the fact appears to be, that the thousands who fell victims were mostly slaughtered by heat and disease, not by cannon or musket, sword or bayonet. As matters have hitherto stood, 70,000 British troops in India include at all times nearly 6,000 occupying beds in hospitals;

and 5,000 men die within the year, besides the lessening of the force occasioned through other causes.

Then come the important questions—how much does this cost? how much does the nation lose in hard cash by the *excess* of deaths among Indian soldiers beyond what would occur under better regulations? Even setting aside altogether the comfort and feelings of the soldier, what do we lose by this mismanagement? From an elaborate comparison of various data, the Commissioners arrive at a conclusion that 100*l.* a year is, on an average, spent on every British soldier serving in India, including pay, dress, diet, arms, recruiting, retired allowances for officers and men, staff charges in India, camp equipage, stores, punkahs, bedding, hospital attendants, medicines, and transport in India; including, in fact, everything necessary for a soldier to take and maintain his average position in the army. These are the regular expenses, irrespective of the lavish outlay brought on during the heat of a war. Now let us see how this tells in the long run. A sick soldier is so vast an incumbrance, that it is believed he costs the Indian Government as much as an effective soldier. If there were no sick among the 70,000, about 6,000 less in the army would suffice, and these 6,000 represent 600,000*l.* per annum. The Commissioners make an allowance of 200,000*l.* for *inevitable* sickness, *i. e.* that degree of invaliding which may be expected in an Indian army even under the best circumstances; and they thus arrive at the startling result that we are now losing at the rate of nearly *four hundred thousand pounds per annum*, or more than a *thousand pounds a day*, by illnesses that might be prevented, and deaths that might be postponed, under better regulations. This is a mode of stating the matter which tax-payers are quite competent to understand. Military officers serving in India have their own peculiar means for knowing how seriously the mortality among the troops affects those who survive and are well; for if they would and could insure their own lives for the benefit of their wives and children, they pay about double the premium which men of the same ages pay in England. And yet the officers are not exposed to so many deleterious influences as the private soldiers.

As the Commissioners express very unequivocally their belief that the deaths of soldiers in India might be reduced from 69 to 20 per 1000 per annum, saving in this way alone about 50,000*l.* a year for every thousand men engaged, besides giving greater strength and efficiency to the other 980 in the 1,000, it becomes important to know in what way the present evils are brought about.

1. *Indian stations.*—A military station in British India is not exactly a barrack, a garrison, or a camp, in the English meaning of those terms, but something of all three. It is a vast area of ground, comprising all that is necessary for the daily support of native troops, as well as British—native huts and bazaars for the one, rows of barracks and officers' bungalows or quarters for the other. Most of the stations have been chosen with little regard to sanitary fitness. *Bad water*, bad either in quantity or quality, is almost universal at the stations; little care is taken to procure it, and the native troops are very dirty in all that relates to it. In many the drinking-tanks are also used as the bathing-tanks; while in some the drinking tanks are converted to pur-

poses very little better than drains and sewers. At Bangalore, the great tank for drinking is actually the outlet for the whole drainage of a native town of 125,000 inhabitants, and of the troops and cavalry horses at the station. The commander-in-chief of the Indian armies told the Commissioners that "the disgustingly filthy nature of the source from which the water used at Bangalore is taken has been brought to notice scores of times by me within the last four years and a half; but, as usual, nothing has been done to remedy this most crying evil." As the water is so much more impure than it ought to be, so is it much too scanty for the purposes of washing and bathing. Only two stations throughout India have proper lavatories and baths for the soldiers; at most other stations "where there are lavatories there are few or no fittings; where there are fittings there is no water." At some of the stations *bheesties*, or native water-carriers, bring every drop of water to the soldiers' barracks in skins. Miss Nightingale, in her pamphlet, gives woodcuts of these camp-labourers, and remarks: "The reason usually assigned for using these human water-pipes in barracks is, that they are indispensable on field service. But so are tents, and yet nobody proposes to barrack men in tents in time of peace. Barracks are built for peace, and ought to be supplied with reasonable and decent conveniences. Why should the bheestie and water-skin be preserved when the tent is abandoned? Let the bheestie be for field service, if no better device can be discovered; but let some civilized method be adopted of supplying barracks, garrisons, and towns with this prime element of health and cleanliness." *Bad drainage* is, as may easily be inferred from the foregoing details, almost universal at the military stations. One reads with dismay the descriptions sent from the various stations concerning this matter—the removal, or rather the non-removal, of the refuse from thousands of human beings and hundreds of horses. Miss Nightingale, commenting on the report obtained from Bombay, sarcastically remarks that "Bombay would gladly say, as the London woman said when asked to point out the drains, in the days when London drainage was in a similar state, 'No, thank God, sir, we have none of them foul stinking things here!'" Suffice it to say, on this unsavoury subject, that the drainage of the Indian stations is nearly as bad as it can possibly be, offensive to every sense, and most deleterious to the troops. *Dirty bazaars*, or quarters for the native camp-followers, are another great source of mischief. Although a Hindoo would shrink from drinking out of a vessel which has been polluted by Christian lips, he shrinks from no manner of filth in his own hut, in his daily life. Whatever may be the case in the cantonments for the British troops, water, drainage, and ventilation are worse in the native bazaars attached to them. Even at such hill stations as Nynee Tal and Darjeeling, to which soldiers are sent to renovate their health, the native settlements around are in such an abominable state as quite to pollute the air. These settlements, the native bazaars for camp-followers, found in close proximity to all the military stations, are built on one general plan, or rather *no* plan. They consist of huts, placed without any regularity, and without any regard to sanitary conditions. They have grown up "anyhow," and increase with the bazaar population. The

habits of the natives are such, even close to the European lines, that unless they are closely watched they cover the whole neighbouring surface with filth; and if there be any ravines and pits in the vicinity these speedily become dangerous nuisances. The natives dig the mud to make their huts; and then the hole thus formed, close by, serves as their receptacle for all kinds of abomination. Sir Proby Cautley, speaking from his own experience, said: "To give the Commissioners an idea of the state of these bazaars, I may mention that the natives build their huts entirely of mud dug out of holes as near as possible to the place where they build. In the Cawnpore bazaar I came upon ponds full of black mud and all sorts of filth, and the whole place was utterly unventilated, which was a very remarkable illustration of how ill-health was produced, not only in the immediate neighbourhood, but all round the place." Besides the ill effect upon the troops, Sir Charles Trevelyan points out how much the health and well-being of the natives themselves are affected by the deplorable condition of the bazaars—but this part of the subject we need not enter upon.

2. *Intemperance.*—If the condition of the military stations, in reference to sanitary provisions, be the primary cause of the frightful mortality of English troops in India, the intemperate habits of the men unquestionably deepen the evil. The Commissariat arrangements are too lavish in this matter. Every British soldier in India has a right to purchase every day at his regimental canteen two drams of spirits, of good quality, generally rum or arrack; or he may substitute malt liquor for the spirit, a quart of the one in lieu of a dram of the other. Two drams are equal to the twentieth of a gallon; and hence each soldier who avails himself of his privilege of dram-drinking to the fullest extent will consume 18¼ gallons of raw spirit per annum. Now the Commissioners, after adverting to the deleterious results of dram-drinking even in cold climates, add: "Of all habits that of continual tippling is about the last which should be encouraged in such a climate as that of India; for the diseases which it is observed to cause in England are diseases from which the soldier suffers severely in India." On one occasion some horse artillery were marching along a road lined with date-trees; the men could pull down the pots which had been hung up to receive the bhang, or date-juice. They fell in great numbers with apoplectic seizures, cerebral derangements, and fever. They said it was sunstroke; but Dr. Bird, a skilful army surgeon, asserts that bhang had much more than sun to do with the matter. There is a vicious system by which a regiment gets a certain amount of profit out of the spirits sold to the troops at the canteens; and thus the resolution to apply a cure for the admitted evil is weaker than it would otherwise be. But if the men could not get *good* spirits (which they do) at the canteens, they would certainly obtain bad spirits at the native bazaars; and thus the remedy must be one that would reach the bazaars as well as the canteens. All the officers, with one voice, who gave evidence to the Commissioners, condemned the use of spirits by the troops; and their estimate of malt liquors, in such a climate, was scarcely more favourable.

3. *Over-dieting.*—English readers may be rather surprised to hear

that our soldiers in India are over-fed, and become injured in consequence; yet such really seems to be the case at the stations in peace time. The daily ration is—meat, 1 lb.; bread, 1 lb.; vegetables, 1 lb.; rice, 4 oz.; sugar, 2½ oz.; tea, $\frac{5}{7}$ oz. (or coffee, $1\frac{3}{7}$ oz.); and salt, 1 oz. The meat is generally beef, more rarely mutton; the vegetables comprise potatoes, carrots, onions, pumpkins, &c., according to the kinds most easily procurable; and for an extra three halfpence per day the soldiers can get occasional supplies of pork, bacon, butter, and milk. The food, enough for hard-working men in temperate climates, is too much for half-idle men in a hot country. *They* may not think it too abundant, for eating and drinking help to pass away the time; but medical men point to the injurious consequences of such a dietary in such a climate. (In the summer of 1864, the temperature in a well-built and well-managed house in India was, day after day, as high as 105° or 110°.) The native Hindoo manages better; he eats very little animal food, especially in hot weather; whereas the English soldier is not taught to make any discrimination. "So little is the importance of the difference of climate recognized," say the Commissioners, "that the soldier eats animal food twice or even thrice a-day all the year round. Sir John Lawrence says that he does not believe the officer does so, and that if he does he gets sick too. The evidence before us goes to prove that the present dietary of the soldier, considered with reference to the amount of work he has to do, is injurious to his health; and we concur entirely in the opinion of Sir John Lawrence, that Government might try to induce the men, by varying the rations with reference to hot and cold weather, to use more vegetable food and fruit, and less animal food."

4. *Dress.*—Like so many other things connected with the British soldiery in India, the style of dress is not well suited to the maintenance of health. Still it is better than in former years, when troops used to be sent out with very nearly the same kind of dress as they wore in England, whether they were sent to cold Canada or hot India. Now they wear, for Indian service, trousers and tunics of *khakee* (dust-coloured cotton), with helmets of wicker-work covered with cotton. Army surgeons think that the men ought to wear flannel under-clothing, which they do not; that the wicker helmets need some contrivance for interior ventilation, in a climate where apoplexy and brain fever are rife; and that army shoes, instead of being made only of six sizes, should be shaped with better consideration for the comfort of the men. Nevertheless, the present exhibits so many improvements on the past in this matter that we must not regard the soldier's dress in India as any very considerable source of ill-health.

5. *Unemployed Time.*—Here we come to a mighty evil, a moral cause of deterioration to the soldier in India. Whether we speak of employment, instruction, or recreation, the deficiency is equally apparent. What do the Commissioners say on this subject? "There is no period of military service in which the soldier is thrown more upon his own resources, and has fewer opportunities of employing them advantageously, than during his service in India. He rises at gun-fire, attends his parade or drill—over soon after sunrise; he then returns to his barrack, and during the hot season he is not allowed to

leave it till late in the afternoon. At one o'clock he consumes a large amount of both animal food and vegetable, porter (perhaps a quart), and spirits. He has few or no means of occupying himself rationally. He lies on his bed and, perhaps, sleeps most of the day. He has his evening parade or drill, and his time of guard-duty once every five, seven, or ten days. Even at home this kind of regimen would be far from conducive to health; in India, both physically and morally, it helps to destroy it in men in the prime of life with abundance of nervous power to dispose of." Miss Nightingale illustrates this matter in a very effective way. A military officer at an Indian station sent her a pencil sketch of the interior of a barrack-room, showing the way in which the men endeavour to pass away the listless hours between meal-times. She caused it (together with many others) to be engraved on wood, and has inserted the woodcut in her pamphlet. There are about twenty men in the room. Two, sitting on their two beds, with very little clothing on, are playing at cards; a third is lying asleep on one of those two beds; a fourth is lying on his bed looking at nothing in particular; and of two near him, one is reading, and another, with his shirt off, is trying to allay thirst with a drink of water; one, while smoking, is talking with another who is fanning himself; then we see two more, fast asleep, with their naked feet seeking for a whiff of fresh air; one is trying to have a wash with a very scanty supply of water; another, shirtless, is apparently examining the state of his linen; and three others, two of them smoking, seem to be discussing the demerits of a pair of boots. And these are the men who, if an Outram or a Havelock were to lead them, would go through any amount of hardship without a word of complaint. Concerning the three kinds of discipline included under this heading—instruction, employment, and amusement — the amount obtainable at different stations differs greatly, but in nearly all it is far too little to maintain the soldier in health. There is a *library* of some sort at every station; but the room is usually badly lighted, both by day and in the evening, and the supply of books is poor. There are very few proper *reading-rooms* or *day-rooms*, where the men could meet for friendly chat and smoke, and have light refreshments irrespective of the spirits and beer from the canteens. One such room, with an excellent library besides, at a station where the officers have taken up the matter in a determined spirit—greatly to the satisfaction of the men—suffices to convince the Commissioners that this kind of reform is easily attainable. There are scarcely any *workshops* at the stations: many of the men long for them to employ their thoughts and muscles pleasantly, and to make a little money by fabricating useful articles for the regiment, or do shoemaking and printing for the natives. A few *gardens* have been established here and there to attract such of the men as have a taste that way; but as these gardens belong usually to the regiment, rather than to the station, they become neglected when the regiment changes its quarters. *Gymnastics* are almost entirely neglected in India; scarcely a station has a gymnasium, although experienced officers told the Commissioners that such places "would be the best thing ever introduced into the service in India." There are *ball-courts*, *skittle-alleys*, *fives-courts*, *quoit-grounds*, and *cricket-*

grounds—some or all of these—at most of the stations, and here and there a *theatre* and a *lecture-room*; but still the men long for more open air, more exercise for legs, arms, lungs, and brains. They complain of "weary idleness," an idleness that brings on multiplied evils to their health. The Commissioners doubt "whether it is really necessary to confine the soldier so rigidly to his barracks during the heat of the day. The assumption seems to be that if allowed to go out he will expose himself and get sun-stroke or some other disease, and so the health of the regiment would suffer. No evidence of this result has been adduced before us; and indeed it would, at first sight, appear doubtful whether confining a number of men all day in the same crowded rooms, where they eat and sleep, in a state of absolute inaction, is not, in such a climate, productive of more injury than allowing the men legitimate liberty. The very idea of confinement is in itself injurious, and is very likely indeed to make the soldier miserable. Tell him, however, that he may go out, and, at all events, the idea of unnecessary restriction will be removed. We have evidence before us of men being allowed to go out shooting by their commanding officer in the hot season, and they were all the better for it; at all events, they did not suffer in consequence. It is stated that the men like shooting better than any other amusement; that the effect upon their health and spirits is good; that the liberty given has never in any single instance been abused; and that it is quite a point of honour with them to behave well." Colonel Greathead states that, when he was quartered with his regiment at the very hot station of Deesa, he allowed the men to go out shooting as much as they liked; the men would walk sometimes fourteen miles, and return to the barracks in excellent health and spirits. They had something to *do*, which even a little child requires in order to be kept in good-humour.

6. *The Hospitals.*—When a soldier is once stricken down in India, whether by removeable or irremoveable causes, he has much less chance of recovery than in England, because many of the evils which beset the barracks affect the military hospitals also. The soil and the ventilation have in most cases been equally unattended to in the two classes of building. The hospital-wards are on the ground floor, elevated at most a foot or two above the level, but without any passage of air beneath the floor. The worst hospitals have a number of wards in the same building, or have more than two rows of beds between the opposite doors and windows. At one station there are 228 beds in two wards. At Dinapore is, perhaps, the longest hospital ward in existence, being 633 feet long by only 21 wide and 18 high; it is, in fact, "nothing but a very long, narrow passage, like the Scutari corridors, memorable in history for their immense fatality to the sick in them, owing, in fact, to their long, narrow construction." The floor-area is in almost all the hospitals far too small, causing the beds of the invalids to be very close together. The average area varies from 50 to 80 square feet per bed; not sufficient in a hot climate; but there are some as small as 24 square feet, requiring the beds almost to touch. In the older hospitals the ventilation by opposite doors and windows is very imperfect, leading rather to the production of draughts than to the thorough changing of the air in the

wards. Most of them, likewise, are too dark; inconvenient to the attendants and depressing to the patients. There is one case in which the darkness is such that the surgeons have to perform operations in the verandah outside. The ablution and bath accommodation too often consists merely in a tin pot, with which the sick pour water over themselves. Frequently, there being no ablution-room, the patients wash themselves in the open verandahs, in all weathers, and they must sit down to wash their faces. The only bathing is done in wooden tubs, to which water is carried by the bheesties, or native water-carriers, who pour it over the patients. There are no baths, hot or cold, in the European sense of the word bath, and "the means of cleanliness for sick, as sick, are, to sum them up, *nil*." The hospitals are no better drained than the barracks to which they belong; all sorts of liquid refuse have to find an outlet where they can, and the poor fellows are thus subject to noisome odours to add to their other miseries. The dietary of Indian hospitals is regulated on the same rules of fixity or uniformity as those in military hospitals at home were formerly; but great improvements have been made in this matter at home within the last few years, and India seems to be sadly in want of a similar amelioration, affording greater latitude to the surgeon to exercise his judgment. Hospital cookery is described as being too little varied, and often very bad: the cooks are chiefly natives, and have had no training in the specialties of hospital cookery; or else they are equally untrained Europeans taken from the ranks and liable to be withdrawn at any time. The hospital bedsteads, which certainly ought to be of iron, are mostly of wood, and are terribly infested by vermin. Sometimes the poor sick soldiers almost tear their bedsteads to pieces in the vain endeavour to get rid of the objectionable tenants. The stuffing of the beds and pillows, whatever it may be, is never what it ought to be, and what it is now ordered to be at the home military hospitals—horsehair. So far as hospital attendants are concerned, the number is abundant; natives are numerous enough, acting as bheesties for bringing water, coolies for throwing water on the tatties or evaporating-curtains, and other coolies for moving the punkahs (which produce a current of air in the room), besides dressers, cooks, stewards, washermen, tailors, barbers, nurses, bearers, and sweepers. Miss Nightingale, in her comments on this part of the evidence, says: "The chief quality in native cooks appears to be the 'pursuit of cooking under difficulties;' their ingenuity in bringing about an apparently good result, in a rude and often bad way, is frequently admired by the reporters, as if the end of cooking were 'to make a pair of old boots look like a beef-steak.' In England, where the grass-fed meat is so much better than in India, it is found necessary to put the purveying of meat for hospitals under the charge of the purveyor, for the sake of always obtaining the best quality; but there does not appear to be any provision of this kind in India, where all is under the commissariat." In short, Miss Nightingale, from a comparison of the several Stational Reports, finds that the hospital buildings, ventilation, lighting, means of ablution, drainage, bedsteads, bedding, dietary, cooking, cook-houses, nurses, linen-washing and drying—all, though of course not all in an equal degree, are

very defective, and ill calculated to promote the recovery of a poor fellow stricken down by sickness.

7. *Married and Unmarried Soldiers.*—A serious cause of deranged health among the troops in India is the position in which they are placed in domestic matters. Very few of them are married, and those who are unmarried fall too frequently into a dissolute mode of life in their leisure hours. Unless the commanding officer of a corps gives to a soldier permission to marry, the wife and children of that soldier have no claim for quarters in the barracks; and even if that permission is given, it is limited to 6 soldiers in 100 at home, and 12 in 100 when going to India. It hence follows that 88 out of every 100 British soldiers in India must be (93 per cent. actually are) without those advantages which the domestic tie produces. The authorities agree that "the married soldiers are always the steadiest, most temperate, and best behaved in the regiment." The rooms appropriated to soldiers' wives in India, although far from being what they ought to be, are better arranged than those in most of the home barracks, where this matter has until lately been disgracefully neglected. The late painful inquiry into the cause of the death of Sergeant-Major Lilley brought to light many facts tending to show that the wives even of non-commissioned officers are ill-provided with room-accommodation in India. But it is the soldiers who are not married who are placed in the greatest danger of losing their health. The facilities for drunkenness have already been adverted to, and the temptations to a licentious life in the native bazaars are still more glaring. Miss Nightingale, commenting on this subject as far as it was possible for a lady so to do, says: "India has its licensed 'lal-bazaars,' and its licensed spirit-selling. And both are encouraged to the utmost by leaving the men wholly without rational employment for their time. The 'lal-bazaar' and the canteen both send men into hospital in abundance. While, instead of confronting both evils with the strong arm, and providing men with useful occupation and manly amusements, Government sets up Lock-hospitals under its authority, and makes ineffectual attempts to stop drunkenness by keeping the supply of drink, as far as it can, in its own hands, and so encouraging the evil by its own authority. The authority of Government is avowed by both evils. So long as this is the case they will extend and flourish, and the taxpayers in India and England will have to bear the cost."

It thus appears, from an examination of the military system of India, that there are very numerous causes for the frightful mortality and diseases among the British troops stationed in that country. The unhealthy camp arrangements at most of the military stations; the unfitness of the barracks for large bodies of men in a hot country; the intemperance produced by too great facility in obtaining ardent spirits; the liver diseases encouraged by including too much animal food in the dietary of idle men; the need for still further reforms in the soldier's dress, when intended for an Indian climate; the mental and moral injury, accompanying injury of bodily health, resulting from insufficient employment, instruction, and amusement; the in-

completeness of the hospital arrangements for supplying that which is necessary for a sick soldier; the demoralisation and disease incident to a system where more than nine-tenths of the men are unmarried, and are without any check to dissoluteness—all combine to bring about the result. The Commissioners did not ask, "Who's to blame?" but "What's to blame?" It would be useless to try to fasten the fault upon any one person or body of persons. Scarcely any Indian official, from the Governor-General downwards, would hesitate to recommend improvements in the several matters just mentioned; but army routine is a very rigid affair, that cannot be broken through without a great effort. We must remember, too, what a composite structure the Anglo-Indian army has been. Until the recent transfer of the East India Company's army and governing powers to the Crown, troops for India were raised under three entirely diverse systems. There was the *Native* Army, commanded by English officers, and raised and wholly supported by the Company; there was the *European* Army, or the regiments known as "Europeans," consisting of British soldiers, raised and drilled by and for the Company, and commanded by officers who served the Company and the Company only; and there was the *Royal* or *Queen's* Army, consisting of a certain stipulated number of regiments from the regular British Army, *lent* to the Company for a time, and supported by them during that time, but commanded by Queen's officers. It may easily be imagined that, in such a tripartite system, many anomalies in discipline and practical detail would arise, many evils accrue, which would with difficulty be met. There is greater unity of purpose now, when all the troops alike acknowledge one sovereign as a controlling power, and when the mysterious "John Company" (whose existence and position the natives never could and never did really understand) is dead; and this unity will lend force to any reforms that may be made. The Commissioners do not despair. They say: "In weighing the evidence, especially that referring to the sanitary condition of stations, it is impossible to evade the conclusion that a great part of the sickness and premature mortality in the Indian army is due to preventable causes. In times past, climate has been popularly blamed for results which would follow in their degree similar causes anywhere. Our inquiry has shown that the causes must be sought in defective sanitary conditions and in bad habits; and it is in the correction of these that we must look for diminished mortality and increased efficiency." Miss Nightingale is still more decided in her conclusions that these frightful evils are nearly all within available means, if not of absolute cure, at least of great amelioration. There is sometimes an approach to lofty scorn in her remarks, scorn that men should not sooner have resolutely combated with dangers which they *can* conquer if they will. "It would require," she says, "very strong evidence indeed to convince the people of this country that the epidemics which have devastated India arise from any other causes than those which the stational returns and the evidence prove to exist in what we may call a state of absolute perfection in the Indian towns, but which have been removed with entire success in this country." The inducement, in truth, is singularly great to do

a mighty work of improvement here; for besides the three or four hundred thousand pounds sterling a year which we are losing by the *excess* of mortality and sickness over that which is natural and inevitable, there is that moral degradation, that impaired efficiency, that national discredit, which are sure to follow in the train of a military system so conducted. A nation become injured by injuring its own army.

It is scarcely necessary to enter at any considerable length on the string of recommendations with which the Commissioners ended their Report. When men have been engaged in investigating the causes of an admitted evil, the suggested remedies will naturally bear closely on those causes, either for their removal or their modification. We may summarise the chief recommendations thus:—No recruit to be sent to India before twenty-one years of age, or until drilled at home; he should arrive in India about November; no spirit rations to be issued to troops on board ship; sale of spirits at canteens and military bazaars to be as much as possible discouraged; daily rations of food to be modified at different seasons; flannel underclothing to be worn; covered sheds as gymnasiums, and gymnastic exercises to be introduced at all the stations; libraries and reading-rooms at the stations, with books, newspapers, and light refreshments; workshops and gardens, to occupy some of the leisure hours of soldiers; period of service in India to be limited to ten years; improved arrangements for sending home invalids; improved drainage and water-supply at nearly all the stations, by engineering works varying with the locality; all barracks and hospitals, as much as possible, to be on raised basements, with the air circulating beneath them; no more than a quarter-company in any one barrack-room; hospitals to be in detached pavilions, with no more than twenty to twenty-four beds in each; detached cottages to be erected for married soldiers and their families; all future barracks and hospitals to be so arranged *en échelon* as to receive the benefit of prevailing winds; only two rows of beds in any barrack or hospital-room; barrack space to be 80 to 100 square feet of flooring, and 1000 to 1500 cubic feet capacity, per man; doors and windows to be so arranged as to admit plenty of fresh air, without direct draught upon the beds; regular ventilation to be provided irrespective of the doors and windows; barrack-rooms to be better lighted than at present, both by night and day; better means for ablution and bathing to be provided at all the stations; larger and better ventilated cook-houses; everything connected with area of wall and flooring, cubic capacity, supply of water, baths, &c., to be still more complete in the hospitals than in the barracks; properly-trained cooks, and improved dietary tables for the hospitals, with trained attendants in the larger general hospitals; hospital orderlies to be selected from the men of each regiment; strategical points to be so determined all over India as to reduce the number of unhealthy stations; one-third part of the whole force in India, in rotation, to be sent to healthy hill-stations or sanitaria; properly-trained army medical officers of health to be appointed at all the principal stations; army medical candidates to include military hygiène and sanitary science among their studies; cadets of Royal Engineers to attend a

course of sanitary instruction at Chatham; a code of regulations to be drawn up for distribution, embodying the duties and adapted to the specialties of the Indian sanitary service; the home system of collecting and tabulating army medical statistics to be extended to India, with provision for determining the effects of local causes on the mortality of the native as well as the European population in the large cities, the results to be tabulated and published annually; soldiers of good character—a few in each corps as an encouragement to the rest—to be educated for subordinate offices in the administration; the study of the native languages to be as much as possible encouraged among all ranks in the army. Lastly, commissions of public health to be established, one in each presidency, so constituted as to represent the civil, military, engineering, sanitary, and medical departments: their duties to be—to give advice and assistance in all matters relating to the public health, to aid in selecting new stations, making sanitary improvements in existing barracks, hospitals, &c.

Improvement has begun, slowly but surely. Since the Commissioners' Report was published, details have reached England concerning a mode of employing the leisure time of soldiers in India, tending to show that brisk work is obtainable near the stations, and is more healthy for the troops than idleness. General Sir Sydney Cotton, commanding the Peshawur division, made a proposal some time ago for employing British soldiers in making roads among the hills in the north-west of India. So customary has it been to get all out-door labour done by the natives, that the proposal was viewed as a remarkable one; nevertheless, the Governor-General and the Commander-in-Chief, willing to give the plan a fair trial, sanctioned it. In May, 1863, two hundred troops, selected in equal proportions from two British regiments stationed at Rawul Pindee, set forth to the Murree Hills, headed by four officers and an assistant-surgeon. In 1861 a road six feet wide had been finished through a wild, hilly district from Murree to Abbotabad, a distance of forty miles. It was a military road, made chiefly to afford the means of obtaining control over a turbulent population; and was found so serviceable, that a resolve was made to widen it to thirteen feet, by very heavy excavations in hard rock, sometimes on the brink of formidable precipices. The two hundred troops encamped at Burean Gully, a table-land; and made huts at a higher elevation to shelter themselves during the rainy season. They were placed temporarily under the Department of Public Works; and the officers were instructed to consider themselves, for purposes of work, under the direction of the superintending engineer of the division, who would issue orders concerning the localities to be selected, and the nature of the work to be done. To each company of one hundred men, one mile of road was in the first instance apportioned; the soldiers performing the whole of the labour of blasting, hewing, levelling, &c.; and when those two miles were finished, two other miles were similarly allotted. The work employed many months to finish, since it was little less than hewing a road out of rocky mountain sides. According to the latest details received, all parties are satisfied with the result. The military authorities, as each mile of

road was widened, were able to transport with increased facility not only troops, but heavy guns and all the munitions of war. The peaceful traders, the cultivators and the merchants, find a new outlet for their produce and wares, and new inducements to those industrial pursuits which are among the best of all cures for turbulence. The troops themselves are satisfied, for the work puts a little honestly-earned cash into their pockets. In addition to their ordinary military pay and rations, they receive daily wages—nine-pence per day for a soldier-labourer, fifteen-pence for a soldier-artizan, and a shilling for a corporal or overseer. Lastly (and it is for this that the matter is mentioned here), the men are getting more healthy, strong, and cheerful, decidedly better than when stationed in idleness at Rawul Pindee.

Still more gratifying is an announcement by Sir Hugh Rose, the Commander-in-Chief, in an official statement furnished at Simla, in April, 1864, concerning the results of *Army Workshops*, first commenced in 1861. The system has extended to five regiments of cavalry and thirty-two battalions of infantry. The men buy materials, execute work, and sell the articles made at a profit; or else they work at wages on materials furnished by others. In six months the men realised between 5,000*l.* and 6,000*l.* in this way.* If a corps has been moving about, or if any station is deficient in barrack and workshop accommodation, there of course the results are less developed. Gardens have much increased in numbers at the stations, and the soldiers take great delight in them. Sir Hugh Rose recommends the holding of a kind of horticultural *fête* occasionally, with the awarding of prizes for successful culture. The industrial system for soldiers' children is also progressing favourably; the girls learn to make their own clothes, and are receiving a plain and useful education at schools. Manly exercises are on the increase, in the various forms of gymnastics, cricket, quoits, and bowls. Most of the regiments have now reading and recreation rooms, where wholesome light refreshments and cheerful amusements are obtainable. A large majority of the men show a willingness to subscribe to regimental libraries; Sir Hugh Rose speaks of 705 in the 79th Foot, 671 in the 3rd battalion of the Rifle Brigade, 675 in the 2nd battalion of the same corps, 640 in the 81st Foot, and so on. Nothing could more fully corroborate the opinion, and justify the recommendation of the Commissioners, than the following remark by the Commander-in-Chief:—"To this system of useful employment and recreation may, in a great measure, be attributed a considerable decrease in the consumption of ardent spirits in this army, than which nothing can be more gratifying." When the soldiers in India come to hear and read of the industrial exhibition held at Aldershot camp in the summer of 1864, it may perchance act as an incentive to them, and induce them to adopt this, as well as other excellent modes, of occasionally exercising their brains and fingers.

* It may be mentioned, as a matter for caution in copying figures, that the *Times* interpreted the sum in *pounds*, *shillings*, and *pence*, instead of *rupees*, *annas*, and *pice*; that is, made it about *ten times* as much as it really is. We have made the necessary correction.

V.—WORKING MEN'S CLUBS AND INSTITUTES.

Those interested in the moral and social condition of the industrial classes have long regarded with deep concern the continued existence of the numerous causes which have led, and yet lead, such a large proportion of the artisan community to waste so much of their time and hard-earned wages at the public-house, to the great detriment of their health, the corruption of their better nature, and the production of an incalculable amount of want, suffering, and misery in their homes.

The public-house is at present the compulsory resort of a great number of our artisans. Their friendly societies are held there, their trades unions hold their meetings within its walls, their wages are often paid in the tap-room or parlour; in fact, the public-house enters so largely into the habits and customs of the working classes that they can scarcely believe in the possibility of doing in any way without it.

The rectification of this unhappy state of things forms one of the great social problems of the day. The public-house, from whatever point of view it may be regarded, is undoubtedly the chief obstacle in the way of elevating the moral and intellectual character of the working man and his family. This is a fact so patent, and to none more so than to working men themselves, that several years since an attempt was made to counteract the influence of the public-house by the establishment of temperance societies, in which the members, principally working men, were pledged to abstain from the use of all alcoholic liquors. These societies have done much to inculcate sober and economical habits amongst the masses; but the progress made by them, although of an extremely encouraging nature, has been comparatively slow, owing to the want of a substitute for the public-house itself. Those acquainted with the habits and laborious daily routine of most working men will readily understand this. The long hours of monotonous and frequently sedentary toil, render a little excitement or change absolutely necessary. This is usually sought for at the public-house, after the toil of the day is concluded. Experience has, however, shown that it is less the love of beer or gin, than the desire to enjoy the pleasures of social conversation and company, which primarily lures the artisan to the taproom or the beershop parlour; and that if these attractions or advantages could be supplied at a small cost, apart from the necessity of purchasing alcoholic liquors; or, in other words, if public-houses *without* strong drinks could be established, they would in due time become popular with the masses. At one time it was fully anticipated that the formation of mechanics' institutes would have interposed a formidable barrier between the working classes and the beershop; but, owing to the apathy of the industrial community, and the imperfect knowledge which then existed respecting their real habits and wants, the hope has never been thoroughly realized. The intellectual nutriment was supplied before the appetite for it had been created. This, however,

was a mistake on the right side. Still, a bridge was required which should span the gulf existing between the public-house and the mechanics' institute, thereby enabling the artisan to pass from the one to the other with comparative ease and facility. This bridge is supplied by the Working Men's Club, an institution (if we may so speak) of modern origin, although not wholly so. Various isolated attempts had been made from time to time, during the last thirty years, for the purpose of forming associations aiming at precisely similar results. But the want of experience, tact and, above all, of that spirit of self-help so characteristic of the working men's co-operative associations, led to such numerous failures and disappointments, that the majority of projectors became disheartened, and relinquished all further efforts, leaving the whole question in temporary abeyance. This state of things did not continue very long. The rapid increase in the number of public-houses and beershops, and the corresponding falling off in the number of working men attending mechanics' institutes, led to the subject being occasionally revived, and in 1861, a paper by the Rev. H. Solly, on the subject of working men's clubs and institutes, was read at the Dublin Social Science Congress.

Previously to this, in 1858, Mr. Solly, who had for some years been connected with the temperance movement, found the Lancaster Mechanics' Institute all but deserted by the working men. For upwards of two years various efforts were made for the purpose of inducing the artisan classes to support or join the institution, but in vain. They persisted in standing aloof, as if they had no personal interest in the matter. Conversing one evening with Miss Dawson (a sincere and warm-hearted friend of the working classes) at her father's house, Mr. Solly touched upon the subject of working-class apathy, as exemplified in the case of the Lancaster Institute, when Miss Dawson stated that she had that morning received a letter from a gentleman, in which the writer said,—"The cry comes from all parts of the country, 'What are we to do with our reclaimed drunkards?'" Mr. Solly, recollecting the share taken by him in the formation of the Yeovil "Working Men's Society for Mutual Improvement," in 1842, and the Cheltenham "Working Men's Institute," in 1849, expressed his opinion that working men could everywhere possess rooms as well-lighted, warm and comfortable, as that in which he was then seated. Like other keen observers of working-class nature, he felt that many artisans were driven to the public-house in consequence of the impossibility of having social intercourse elsewhere. But then the question arose, "Was it possible to realise the idea he had so hastily formed?" This was in 1860. Losing no time, he got the Mayor of Lancaster to meet several of the representatives of the Mechanics' Institute and the local temperance society, at the Town Hall, out of which conference a public meeting originated, resulting in the formation of a Working Men's Mutual Improvement and *Recreation* Society. Mutual improvement societies had previously been formed in most of the towns and villages of the kingdom; but their sphere of usefulness was much limited, their operations being generally confined to the delivery of occasional

lectures, and the formation of classes for instruction in reading and writing—the recreative element, the principal characteristic of the later class of working men's clubs, being altogether absent. This deficiency had been noticed by others beside Mr. Solly, but no organised steps were taken for the purpose of remedying it. Still, a a few associations were from time to time formed upon one or two of the principles subsequently advocated by the Working Men's Club Union. Amongst these were the associations under-mentioned:—

	Formed in
South Shields	1850
Soho	1851
Brierly Hill	1852
Clare Market	1852
Notting Hill	1853
Iffley	1853
Blandford	1854
Dorchester	1854
Charlton Marshall	1855
Cheshunt	1856
Derby	1856
Brighton	1857
Bassingbourne	1858
Salford	1858
Petworth	1859
Staplehurst	1859

In 1860 the number of these associations began to exhibit a slight increase. The subject of working men's clubs had been so favourably received whenever it had been brought forward, and their means of usefulness were so evident, that in 1861 an attempt was made for the purpose of organising a society, having for its object the establishment and encouragement of Working Men's Clubs and Institutes throughout the kingdom. The outbreak of the Lancashire distress, however, prevented any immediate progress from being made; but in 1862, during the Social Science Congress in London, Lord Brougham consented to take the chair at a preliminary meeting, and there and then the "Working Men's Club and Institute Union" was launched into existence. This was on the 14th June, 1862. Since then upwards of seventy-six clubs, representing nearly 17,000 members, have been formed through the agency of the Union. These are, of course, irrespective of those clubs and societies at present in process of formation. The clubs are to be found in all parts of the country, but principally in the metropolis and the northern counties; about thirty-six clubs being situate in London and its neighbourhood, and almost as many more in the midland and northern districts.

Amongst the most remarkable of these clubs are those at Kensington, and in Duck Lane, Westminster. The first named is situate in a district known as "The Potteries," and was originated by Mrs. Bayly, a benevolent lady, who has devoted much time to the social and religious improvement of the poor in her own district, and who has, moreover, become favourably known to the public as the authoress

of 'Ragged Homes and how to Mend Them,' 'Workmen and their Difficulties,' and other works. The meetings are held in a building "erected for the purpose, at a cost of 1,300*l.*, and which was opened in April, 1861. The hall comprises kitchen, offices, smoking and coffee rooms, library, bar for the sale of refreshments, lecture, committee, and Bible Mission rooms; also rooms for payment of wages. The subscription was twopence weekly; but it was discontinued, and the hall is now placed on the footing of an ordinary public-house, the income being derived from the sale of provisions and the letting of the various rooms. Gambling, improper language, and intoxicating liquors are strictly prohibited. The annual expenditure, including interest on building debt, is about 160*l.* A Working Men's Loan Society, formed two years before the hall, and now connected with it, lent in the first three years, 1,051*l.* 10*s.*, and numbers 220 members. There is also a Mutual Benefit Society, a Clothing Club, and Drum and Fife Band, the members of which have spent 73*l.* for instruction and instruments, besides 2*l.* 10*s.* each for a handsome uniform. During the first nine months the hall was not so successful as the more sanguine of its supporters anticipated, the expenditure exceeding the income. The expenses of the first year amounted to 183*l.*; and for the raising of this sum there were the weekly subscriptions of members, profits from the sale of refreshments, rents of mission and other rooms, and the proceeds of letting the lecture-hall. The institution has not yet become fully self-supporting, the receipts being rather less than the expenditure, while the building debt forms an encumbrance which it is extremely difficult to get rid of.

"The Westminster Working Men's Club and Reading Room, Duck Lane (near Victoria Street), was opened in December, 1860, and was originated by Miss Adeline Cooper. The club building was enlarged in December, 1861; but the cost of its erection and fittings was less than 460*l.* The house contains a large room on the ground floor for coffee, smoking, conversation, draughts, newspapers, &c., a small room for the room-keeper, fitted with cupboards, cottage stove, &c., and offices; and the upper floor is divided into two rooms by a movable partition.

"The history of the club shows a marked progress since its inauguration. A Penny Bank was started three weeks after the club was opened; a Loan Society in July, 1861; a Temperance Society, with a Sick Fund for Members, in January, 1862; and a Barrow Club in the following October. The club has classes for instruction in reading, writing, and ciphering, Bible and singing classes; and arrangements are made for lectures on interesting and scientific subjects. The reading-room is supplied with two daily and eight weekly papers, and seven weekly and seven monthly periodicals. The members belong generally to the lowest order of the industrious poor, including many costermongers, crossing-sweeps, and labourers, who are attracted to the club as well by its popular form of government (the committee being chosen by the members from their own body) as by the advantages it offers and the low rate of subscription, which is only one halfpenny per week. There were at the starting of the club 40 members; the number had, in August, 1862, increased to

270; and the attendance in October following averaged 136, and had averaged during the summer above 100. The excellent conduct of the members, to whose management the club was from the first intrusted entirely by Miss Cooper, is proved by the harmony, decorum, and good feeling which has constantly prevailed, and by the fact that since it was opened not a book, or newspaper even, has ever been taken away. None but working men are admitted as members.

"On Sundays the club is open, and a simple, unsectarian religious service is then held; the newspapers, &c., are removed, and tracts and religious publications are placed on the tables. The fundamental rules forbid the use of intoxicating drinks on the premises, as well as all gambling, betting, and profane language; and, although only a minority are total abstainers, experience has proved to them so forcibly that the club works better without those drinks, that though many of them at first wished for their introduction, they are now, to a man, against having them." *

Those who are acquainted with the character of the districts in which these two clubs are situated, will be enabled to appreciate more fully the advantages obtained by the establishment of such institutions. It is precisely the poorest and most destitute localities where the need is the most urgent for the organisation of such clubs. In the agricultural districts the want is equally felt. The poorer class of our rural population possess very few means of innocent amusement or recreation. The village alehouse forms almost invariably the only place of resort accessible to them; hence the scenes of boorish intemperance and domestic misery so prevalent in the country. Some time since, a benevolent clergyman published an interesting account of the success of a village club started by him. That the success of his experiment was not singular has since been repeatedly shown by the details of the various institutions founded at Blandford, Iffley, near Oxford, Littlemore, and other places where the population is wholly agricultural. These clubs were all based on principles similar to those previously described, and, as yet, appear to have fully realized the expectations of their promoters. But it is in the manufacturing districts that the new institutions are likely to become the most completely developed. At Preston, Leeds, York, Manchester, Newcastle, Coventry, Birmingham, Fleetwood, Halifax, Wakefield, West Bromwich, and other busy seats of manufacturing industry, these clubs have been established with varying degrees of success. The Preston Working Men's Club numbers 600 members, and embraces the following departments: Instruction, including a news-room, small library, and classes for writing, discussion, elocution, and chess-playing, and other classes will probably follow; amusement, including chess, draughts, dominoes, and above all, a bagatelle-table; physical exercise in a small gymnasium in a ground adjoining; refreshments, consisting of tea, coffee, soups, pies, &c., but no intoxicating liquors.

At Leeds there are two clubs, one of which possesses a branch for the use of boys and young persons. These two clubs, together with

* 'Occasional Papers.' W. M. C. Union.

the branch institution, possess 2500 members, with an average daily attendance of 400. The attendance is, however, very uncertain, sometimes being as low as 200, and at other times as high as 1200. The Wednesbury Working Men's Club enjoys the peculiar and honourable distinction of being the only one hitherto known as formed and maintained exclusively by working men.

At York, the Working Men's Club and Institute is situate in Castlegate, a narrow thoroughfare leading from Ousegate to the castle. The building is a common house and shop altered to suit the purpose of the club. The exterior resembles a public-house, and is gaily painted; has a lamp over the door, while the windows are surmounted by large letters, in gold and crimson, setting forth to passers-by the name of the institution. In the windows are large inscriptions setting forth the terms of admission. Entering the side doorway we find ourselves in a passage, on one side of which is a window, at which tickets are to be procured and presented. The terms of admission are, one penny per day, twopence per week, eighteenpence for three months, and five shillings per year, except in the case of honorary members, who are required to pay ten shillings. The day tickets are available for the whole of the day on which they are issued, the ticket-holder being allowed to pass in and out as frequently as he pleases. The walls opposite the ticket window are covered with announcements relating to meetings and other matters. Entering a door on the right, we find ourselves in a small apartment fitted up with a bagatelle board and tables for playing at solitaire and draughts. From thence we proceed to what was originally the shop, but which has been converted into a refreshment room. There may be procured biscuits, rolls and butter, coffee, tea, lemonade, ginger beer, pork pies, currant-buns, sausage-rolls, and various other descriptions of refreshments of the best quality and at the lowest prices. Intoxicating drinks are prohibited. In this room are kept a variety of scientific toys, such as puzzling-rings, &c.; also a small library. Proceeding up-stairs, we enter a smoking room, on the door of which is a notification to the effect that no person under the age of eighteen can be admitted. This room is fitted up, like the others, with tables for draughts and solitaire. There is also a billiard table. Close to this apartment is the reading-room, a large and comfortable chamber, in the centre of which is a commodious table covered with a great variety of newspapers and periodicals. On the walls facing the windows the principal daily papers are so arranged that several persons can peruse a single paper at one and the same time. The walls themselves are decorated with some of the coloured prints given with the *Illustrated News*, maps, and wood engravings. There are two small rooms fitted up expressly for chess-playing, a game of which the more intelligent class of mechanics are extremely fond. Passing into the yard, we find it provided with the requisites for playing quoits. At the end of the yard is a hall, erected for the use of the members, and capable of seating 220 persons. There is a raised platform at the end, on which is placed a piano and table. This hall is generally crowded on Wednesday and Saturday evenings, when lectures, concerts, and other sources of recreation, are provided, principally by the members

themselves. The hall is reached by an exterior flight of stairs, and beneath the hall is a lower room fitted up as a gymnasium, the floor being of earth plentifully covered with tan. This gymnasium is exceedingly popular with the members, and is already much too limited for their accommodation. In various parts of the building are affixed placards requesting every member to "be his own policeman," and announcing that no gambling is allowed, that all players are desired to make as little noise as possible, and so forth. The number of members averaged nearly 500 at the time the place was visited by the writer of this article (September 23, 1864), and the number is rapidly increasing. The library contains 146 volumes, including several copies of the *Penny Magazine*, which still seems to be popular with working men everywhere. There is a register kept of members unemployed. The place is under the care of a steward and stewardess, who receive 20*l*. per annum, with rooms rent free, coals, gas, and profits on the refreshments sold. They have also a lad as assistant, at 10*l*. per annum. The behaviour of the members is represented as being exceedingly good. Many of them attend in their working clothes, sauntering into the house as if it were wholly their own. Altogether, the York Working Men's Club and Institute may be regarded as a model of its kind. Not a few of the members were originally public-house frequenters, but found the attractions of "their own club" preferable to those held out by the beer-shop and the gin-palace.

A few of the clubs are already self-supporting, or in a fair way of becoming so. The rent of the premises in which clubs are held varies from 2*l*. per annum, at Adderbury, in Oxfordshire, to 90*l*. at Birmingham. In a few cases the use of the premises is given rent free, in others they have been presented to the club, while in one or two instances, as at Bristol, they have been erected or purchased at the expense of the members themselves. Few of the buildings have less than two rooms, many having four, six, eight, and even sixteen, as at Bolton, or twenty, as at Hanley Castle. The institutions appear to suffer considerably from the paucity of books, few clubs possessing so many as 500 volumes. This arises from the funds being usually insufficient to procure works of an expensive nature. In the village clubs, biographies and simple histories are most popular, while in the towns, novels, travels, and history are principally in demand. The newspapers and periodicals chiefly read are the *Daily Telegraph*, *Morning Star*, *Standard*, *Lloyd's Weekly Newspaper*, *Builder*, *Penny Newsman*, *Punch*, *Fun*, *Chambers' Journal*, *All the Year Round*, *Once a Week*, *London Journal*, *Family Herald*, *Bow Bells*, *Cassell's Paper*, *Reynolds' Miscellany*, and a few others. The penny novels are wholly unknown. Amongst the monthly periodicals, *Good Words* and *Our Own Fireside* are the favourites. Boys can have a room to themselves. Every institution requires the attendance of a person for the purpose of lighting the fires, cleansing the rooms, &c., and to wait upon the members. In some cases the services of such an individual are provided free of cost, but in others a fair and liberal scale of remuneration is adopted. Where classes are formed, reading, writing, singing, music, French, German, elocution, natural history

and other branches of education are taught. Discussion is generally permitted, on the express condition that sectarian topics are avoided. The class of men who usually attend these clubs has been described by the secretary of the Southampton Workman's Hall, who states that "the distribution of trades among the first 700 members was as follows: One-fourth, or 172, were labourers, hawkers, porters, &c.; 109 bricklayers, masons, and carpenters, &c.; 103 boiler-makers and smiths, &c.; 61 shoemakers, curriers, &c.; 54 engineers and seamen; 99 painters and mechanics, &c.; 26 tailors; and the remainder were shopmen, agents, carriers, &c.*

When at Coventry, some months since, the writer visited the Working Men's Club at that place. It had been only recently formed, but the attendance was good. The members were exceedingly well behaved, and belonged to the more intelligent portion of the working classes.

From the foregoing details, it will be perceived that these institutions possess many of the elements of popularity, and that, if rightly managed, they cannot fail to achieve a large share of success. They possess in an eminent degree the *recreative* principle, the absence or deficiency of which has so frequently proved fatal to the progress of many well-intentioned attempts at improving the social requirements of the industrial classes. Moreover, they supply, as indicated by the Rev. H. Solly, some of the more pressing wants of our working-men, especially those who are desirous of emancipating themselves from the thraldom of the public-house. When the artisan gives up the beer-shop or the gin-palace he generally needs a substitute. Rightly conceived, the workman's home should be his real club. *There*, in the midst of his wife and family, surrounded by his few books and rudely-framed pictures, and sitting by the neatly-swept and blazing hearth, he may read his paper and smoke his pipe to his heart's content; far happier than he would be elsewhere, certainly more so than in the foul, reeking atmosphere of the tap-room or public-house parlour. But, as thoughtfully observed by Mr. Solly, "it must never be forgotten how very different in point of accommodation, means of amusement, and of inviting friends, or in opportunities of quiet, and of refreshing conversation, a working man's home at present too often is, compared with those of the middle and upper classes; and how little we ought to wonder if a man is impelled to break his resolution, to return to the society of the tap-room, and to such amusements as it affords, from sheer want of some other society and amusement to which he can resort. There is much truth, however trite, in Sydney Smith's remark, fifty years ago, in the *Edinburgh Review*, 'the true way to attack vice is by setting up something against it.'"†

The great obstacle in the way of increasing the number of these useful institutions arises from ignorance on the part of the working classes and many of their friends as to the proper mode of commencing operations. To afford advice and information on these points is the primary object of the "Working Men's Club and Institute Union." Presided over by Lord Brougham, and numbering amongst

* 'Occasional Papers.'

† 'Working Men: a Glance at some of their Wants.' Bell and Daldy. London.

its vice-presidents, many—such as M. D. Hill, Esq., Earl Fortescue, Dr. Guthrie and others—who have proved themselves sincere in their devotion to the best interests of the working classes, the Union has entered upon what appears to be a long career of usefulness. Under its auspices a conference was held at the Whittington Club, London, on the 10th, 11th, and 12th of May, 1864, for the purpose of discussing various questions connected with the progress of the different clubs. The Earl of Lichfield, Lord Lyttelton, John S. Pakington, Esq., M.P., and James Heywood, Esq., F.R.S., presided, and the proceedings were of a thoroughly practical character. Amongst the subjects discussed were the constitution or fundamental basis on which Working Men's Clubs should be formed; the desirability or otherwise of the committees being composed wholly of working men; the admission of non-members; defaulting subscribers; the minimum age of admission; the union of clubs with Mechanics' Institutes; funds; payments; the use of intoxicating liquors, &c. Much information of a useful nature was elicited, and several of the papers read contained a great deal that was both instructive and suggestive, but, from want of funds, the Association has not hitherto been enabled to print them. It must be distinctly understood that the Working Men's Club and Institute Union do not undertake the formation of these Associations, but simply to offer advice and to assist in procuring lecturers, libraries, &c., on the lowest possible terms. In many cases, the clubs are commenced by individuals not immediately connected with the working classes, but anxious to render them a service, although in one or two instances, as at Wednesbury, they have originated with the working men themselves. Where the latter has been the case, the success becomes more important in its results, insomuch as it affords a direct inducement to other members of the artisan class to rely on their own endeavours, as in their co-operative associations, rather than on the exertions of others. If ever the clubs are to become permanent institutions, they must, from the very first, be self-supporting and independent of the charitable assistance of the wealthy. It is necessary to direct attention to this, because the Union, in their last annual report, appeal for funds for the purpose of forming clubs in the poorer parts of the metropolis. Clubs thus originated contain within them the elements of weakness, and do not flourish so well as when started on a self-supporting basis. The success of the working men's co-operative associations is mainly due to the wholesome and commendable spirit of independence and self-reliance which characterises their proceedings; and to infuse a similar spirit into the management of the clubs should be the principal aim of all interested in their progress and prosperity. Working men have successfully co-operated together for the purpose of forming trades' unions, friendly societies, and other associations; and there is no reason why they should not, if properly instructed and encouraged, also take the initiative in forming their own clubs and institutes. With the praiseworthy view of assisting working men so disposed, the Union have recently published a series of 'Hints and Suggestions' for the formation and management of these institutions, in which it is recommended that before the society or club be formed, the objects of the same

should be clearly defined. To save trouble, a definition of these objects has been prepared in the following terms:—"To provide a Club and Institute, as members of which, the working men of the neighbourhood can enjoy social intercourse and pleasant companionship, coupled with opportunities for mental and moral improvement, recreation, and mutual helpfulness; and further, to give them facilities for carrying on various plans of social improvement, such as Co-operative Societies, Friendly, or Benefit Clubs, Mutual Improvement Societies, Trade or Building Societies, and the like, in the prosecution of which working men are at present often obliged to resort to public-houses, for the mere want of better meeting-places." There are few places where, under proper management, a sufficient number of working men cannot be procured to unite together for the purpose of carrying out the foregoing objects. In the neighbourhood of large manufactories or workshops, for instance, the attempt might be successfully made. Whenever a large factory is opened, a public-house invariably starts up, as if by enchantment, close to the entrance gates; thereby holding out an almost irresistible temptation to the artisans as they issue to and from their employment. Many manufacturers have striven, but in vain, to combat this evil, which has so frequently robbed them of their best workmen. The club system, however, offers a remedy. Let the employer encourage his men in starting one of these institutions, let him take an interest in it, without interfering with the management, and he will not only raise up a formidable rival to the public-house, but will find his reward in the improved habits and steadiness of those employed by him. According to Mr. Solly:—"Three hundred men, paying 2*d.* per week, or 1*s.* 6*d.* per quarter, can rent a comfortable house to meet in for conversation, business, study, or recreation, and can keep it well supplied with newspapers, games, and books, pay for a housekeeper, coals, gas, &c., and, in many places, have a yard besides, for skittles, quoits, and gymnastic exercises. With a little money-help from friends and neighbours, they can buy gas-fittings, timber for making tables, benches and partitions, bricks and mortar (if needed here and there), white and colour wash, or paper-hangings; and they themselves can have the satisfaction of giving, after their day's work, any labour required in fitting-up, altering, or repairing the house, so as to be no more dependent than necessary upon others. A good second-hand piano and large bagatelle-board may easily be purchased, with a few extra contributions from friends, or a small levy among themselves."

It is recommended that the house or building should, if possible, have a large room for conversation, games, and so forth; another for smoking, a third for classes, and a fourth for committee meetings, and so on. The larger the number of the rooms, the more useful the club will become. Where the arrangements will admit of it, a kitchen should be provided for the preparation and sale of non-intoxicating refreshments. Several gentlemen, Viscount Ingestre among the number, have repeatedly expressed a favourable opinion respecting the desirability of allowing the sale of beer under certain restrictions, but the members, as a rule, are found strongly opposed to anything of the kind. Of course there are exceptions, as at

South Bromley, but their very rarity tends to confirm the impression that the absence of beer is an attraction, rather than otherwise, in these clubs; but in every case the decision should be left to the members themselves. Where institutes, similar to that at Leeds, are provided for the use of boys and young men, neither smoking nor drinking should be allowed. In such cases the rule should be arbitrary, and a compensation offered in the shape of increased facilities for recreation. Late hours should also be strictly prohibited.

The club having been formed, a set of rules for its conduct and management is the next requisite. Those prepared and published by the Working Men's Club and Institute Union will be found to meet every requirement. They have been drawn up under the sanction of Mr. J. Tidd Pratt, who is prepared to certify them, the Secretary of State for the Home Department having granted an extension of the Friendly Societies Act (18 and 19 Vic. cap. 63) to these clubs and institutes, whereby they may acquire the power of protecting their property and the privilege of appointing trustees without the expense of a trust-deed. The rules thus prepared relate to the name of the club, its objects, composition of committee, membership, appointment of trustees and officers, trustees, management, &c., &c. In connection with the formation of committees, a disputed question has arisen,—"Is it desirable that they should be composed wholly of working men; or partly of working men and partly of persons occupying a higher social position?" The experience of working-class co-operative, trade, friendly, temperance, and other associations, affords conclusive proof as to the ability of working men to manage their own affairs, and therefore, wherever practicable, it is decidedly advisable that the committee should be composed wholly of working men. At the same time, the experience of Mr. Turley, of the Soho Club, should not be forgotten. He said that the distinguishing characteristics of a real gentleman, such as a kindly manner and an urbane speech, were sure to be generally respected by working men: and so that they did not affect to patronise, he thought that the introduction of gentlemen, with gentlemanly habits and that power of persuasion which, by reason of their superior education, they possessed, would always prove an advantage to any society. The working men wanted culture, and knew their want, and it was very likely they would not go where they could not get it. The charge for admission should be fixed as low as possible, not exceeding twopence per week. A penny fee will generally prove the most popular. Where possible, the substitution of chairs in place of benches, for the use of those attending the club will be found, trivial as the circumstance may appear to some, a great improvement. At the reading-room belonging to the Rochdale Equitable Pioneers' Co-operative Society, arm-chairs are provided for the use of the members, who appear to enjoy the ease and comfort thus afforded. The newspapers, periodicals, books, &c., should be of a popular nature, and the choice be left to the decision of the members. All the rooms should be kept clean and smart, the walls gaily papered and painted, and, if possible, adorned with pictures, maps, and plaster-casts. The question of classes is somewhat difficult of solution at present. Where there

exists a desire for their being established it would be as well to comply with the feeling thus manifested, but every care must be taken that they are not forced upon the members, or adopted merely as a passing caprice, otherwise their subsequent formation under more favourable circumstances may be rendered extremely difficult. The discussion of topics not sectarian in their nature should, however, be encouraged in every way. Good discussion classes are popular with working men, both with those who speak and with those who listen, especially if the controverted subject be one easily comprehended. Speaking of this point, Mr. Solly states, and his observations coincide with those of the writer, that the discussion itself is a valuable mental exercise, leading to a desire for information. "For example," says Mr. Solly, "if there were a discussion on strikes, on capital and labour, some of the members would gradually, perhaps, be induced to attend a regular class for instruction in political economy; whereas if they were asked at the outset to join such a class, they would never consent: but if they once attended such classes, they would discover that political economists were not striving to enforce laws of their own or of anybody's making, but simply seeking to interpret the laws of God." The introduction of such classes, however, requires much discrimination, and, besides, it must always be remembered that a well-constituted club should prove a feeder, not a rival, to the Mechanics' Institute. With respect to the question of recreation and amusements, it would be found that on the proper supply of these the success or failure of the club will really depend. For every individual working man who attends the reading-room, from ten to twenty will frequent, either as players or spectators, the apartment in which games of skill are being carried on, and it is the opportunities afforded for indulging this propensity which will be found to constitute the chief attraction of these clubs in the eyes of the working classes. They desire to be amused, careless whether it be at the public-house or the club, so long as a change is afforded from the depressing effects of their monotonous daily routine of labour. It will be found that, as a body, they are not unwilling to assist in providing this amusement, as in the case of the "harmonic meetings," and "free and easies" at the public-houses. One artisan will sing a song, three or four others will join in a glee, while a sixth will give a recitation, a seventh perform an air on the concertina, and so on. Some well-disposed individuals may reasonably object to the encouragement of places of mere amusement, but there is no choice in the matter, for if the recreative principle be neglected, the working men's clubs will speedily become unpopular, and share the deadening influence of that apathy which has restricted the usefulness of so many of our Mechanics' Institutes. Our artisans will not be schooled or lectured into the adoption of improved habits; they must be led or persuaded into a liking for them. It is not altogether their fault if they do not avail themselves more extensively of the advantages afforded by the establishment of cheap libraries and reading-rooms, for with them reading is frequently at best a painful and laborious process, in which the body proves stronger than the mind. Hence the propensity to resort to the public-house where the mind can be amused by comparatively

simple means. Publicans are aware of this, and frequently provide music and musicians free of charge to their customers, because they know from experience that such attractions will induce men to frequent their establishments. Mr. Solly states that, "the landlord of a public-house in a northern town has, during the last few years, found it worth his while to give a blind man board and lodging merely to play the piano to his customers on Saturday nights. Another publican enticed the pianist to *his* house, but the first has got him back again by promising to keep him supplied with clothes also."

Where a gymnasium can be provided, as at York and Preston, it should be started by all means. Nothing is more neglected than the *physical* education of the working man, although few have such great need of it. At Preston and other places where gymnasiums have been provided, they have proved highly popular with the members, a large proportion of whom are operatives employed in the cotton manufacture. The public gymnasiums in the Regent's and Victoria Parks, London, are largely resorted to by working men and their children; some artisans walking a considerable distance from their homes for the purpose of being enabled to enjoy the pleasure of participating in the gymnastic exercises. Unfortunately, in many places the dearness of land prevents proper spaces of ground from being purchased or rented for this purpose by the members of working men's clubs. Where this is the case, the system of gymnastics advocated by Dr. Lewis, of Boston, U.S., might be advantageously adopted. It consists of simple exercises, with or without apparatus, the latter consisting merely of wands, rings, dumb-bells, clubs, and other inexpensive articles. Where possible, the exercises should be accompanied by music. A full explanation of the method may be obtained in a little manual published by Mr. Tweedie, 337, Strand.

The club being fairly started, it will generally be found that as it progresses the members will become imbued with a more thoughtful and elevated spirit. They will have learned to respect themselves—a circumstance impossible so long as they were in the habit of frequenting the public-house. *Then* a desire will be expressed that their friendly society, and other organizations of a similar nature, should be held under one roof; that, in fact, the Working Men's Club should become their general place of resort, whether for business or pleasure. The evils of holding friendly society meetings at public-houses admit of no excuse. They have been condemned by all acquainted with their injurious effects upon the economical habits and social life of the working classes, and none are more conscious of this than are the working men themselves. They have seldom shown much hesitation in holding their meetings in rooms apart from the public-house, whenever the use of such rooms could be procured at a sufficiently cheap rate. The publican generally refuses to charge any rent for the use of their club-rooms, looking to the sale of beer and gin to the members as a means of remunerating themselves. The establishment of working men's clubs will afford a means of remedying the mischief, especially in the case of the smaller friendly associations, which, however defective in principle, detail, or management,

are not to be suddenly remodelled, certainly not so long as they are conducted at the public-house. Care must, however, always be taken that too much be not attempted at first. The most successful associations have generally risen from small but sure beginnings, as in the case of the Rochdale and other co-operative societies. Moreover, it must be borne in mind that the working men's club movement is merely a development of the co-operative principle, and depends for its success less on the assistance or charity of the wealthy, than on the earnest and unselfish co-operation of the working men themselves. It would be well if the various co-operative associations would of themselves initiate these clubs in connection with their organizations. They possess unusual advantages for so doing, and would thereby add another source of popularity and support to their own operations. At Leeds, Halifax, Rochdale, and other places, the thing has been practically, if not in name, attempted with success, and there is no reason why it should not be the same elsewhere. Many co-operative societies are compelled to rent premises too large for their business operations, a circumstance which sometimes proves a source of loss to them, but which, by letting their spare space to a working men's club, they might render a source of profit. Where, as is frequently the case, premises are built for the purpose of meeting the requirements of the co-operative associations, it would be comparatively easy to make such arrangements as would admit of a portion of the building being used for club purposes. At any rate, the experiment might be made.

It has been suggested that dining halls should, where likely to be successful, be grafted on to the working men's club system. These halls have been found to meet one of the great wants of the people, and there is no reason why they should not be established in connection with the clubs. The more such institutions can co-operate together, the greater are the probabilities of their success, and the more economical the expenses of management. The co-operative principle might be profitably extended in this direction, and it is to be hoped that the working classes will direct their attention to the question, with the intention of turning it to some practical account. Bad food and bad cookery are two evils which have been productive of much working-class mis-expenditure and disease, and anything which, by supplying at the cheapest possible rates the blessings of good food and good cookery, deserves to meet every possible degree of encouragement.

As the thirst for knowledge begins, as it assuredly will, to gain ground amongst the members, it will be found desirable to arrange for the delivery of popular lectures by competent individuals. These lectures should be extremely simple in their style, avoiding any approach to pedantry or undue display of learning, and aim only at imparting the elements of scientific and historical knowledge in their plainest and most attractive guise. The Working Men's Club Union offers many advantages in this respect, advantages similar to those enjoyed by the Mechanics' Institute unions in the north. The union proposes to assist the various local societies to obtain lecturers and teachers, whether voluntary or paid, by periodical issue of lists

and recommendations of subjects and of lecturers; also by grants of money, in special cases, to aid a number of clubs in a district to engage such lecturer or teacher, for limited periods. It has been suggested that the clubs should be used as "houses of call" by the respective trades, instead of the public-houses as at present. This suggestion has been adopted in one or two instances, but with what degree of success it is impossible at present to ascertain. At Brighton, the journeymen bakers have made arrangements with the Windsor Street Club, in that town, for the purpose of holding their meetings therein, and for using the club as a house of call. In connection with this subject the Working Men's Club and Institute Union have addressed a circular to the officers and members of the various trade societies throughout the kingdom, wherein is pointed out the many advantages arising from the removal of their business transactions from the public-house. Similar circulars have been addressed to the Temperance, Building, Friendly, and other working-class organizations, and there is every ground for believing that the recommendations contained in the circular will be extensively acted upon. The only danger is that they may lead to disputes between the members, but by tact and consideration this may be avoided. The more that working men are brought into closer communion with each other, whereby their better feelings are elicited and encouraged, the less will be the risk of such disputes occurring. The mutual interchange of kindnesses and little civilities, and, moreover, the irresistible spirit of friendship formed in such places, goes far to soften and polish the asperities and ruggedness of working-class nature, and to develop that tone of courtesy which bespeaks the true gentleman, whether the coat be of broadcloth or of fustian. Looking at the working men's clubs from this point of view, it is impossible not to regard with sentiments of approval their rise and spread through the country. As a substitute for the public-house and its mischievous and demoralizing associations, they must, undoubtedly, achieve much good, preparing the way, as they do, for that improved tone of feeling which will ultimately lead our artisans to regard *home* as the true working man's club, where he may enjoy himself, after the fatigue of his daily labour, more cheaply, effectively and usefully, than in any place from which the smiles of his family are absent.

JOHN PLUMMER.

VI.—PROGRESS OF THE LIMITED LIABILITY SYSTEM.

Before entering on the subject indicated by the title of this paper—namely, the progress of a commercial system which has made its way to an extent little calculated upon by its advocates or its opponents—we propose to give an epitome of the kind of arguments used in support of the principle itself, *Limited Liability*, whether applied to partnerships or to companies.

By the law of partnership, each partner can bind each one of his co-partners to an unlimited extent; and this unlimited liability extends to all persons who receive any share in the profits of the concern, although they may not be ostensibly partners. The widow of a deceased partner, who receives a certain proportion of the profits, is regarded as a partner subject to unlimited liability. In one particular instance, a gentleman died leaving an infant daughter; he had been engaged as partner in a business for some years; his executor continued the share in the property for the benefit of the infant daughter; the executor's name was not added to the firm, which was carried on under the same designation as before, nor did he take any part in the management; nevertheless he was declared by the law to have made himself liable in an *unlimited degree* for the debts of the firm. This state of the law, it is contended, tends to deter well-meaning friends from acting as executors, and is disadvantageous to the widows and children of deceased partners. As such inexperienced persons are not fitted to manage such concerns, why, it is asked, should unlimited liability accompany any, even the smallest participation in profits? Moreover, a law of limited liability would enable men of capital to assist others who, though without money, possess honesty, ability, and industry, to set up in trade, and in process of time to become capitalists. Many commercial members of the House of Commons, at the time when this subject was under discussion, stated that they would have been glad to assist enterprising workmen whose skill and honesty they trusted; but were deterred by the state of the law, which would have rendered them liable to the last shilling if they made any kind of partnership in the affair. Lord Goderich mentioned the case of a scientific man who made a discovery or an invention likely to be extensively useful; he spent all his own means in experiments, and applied to a capitalist to assist him. The capitalist pointed out that, if he advanced money at a definite rate of interest, the rate must necessarily be high on account of the risk, and would press heavily on the borrower. If, on the other hand, he advanced money at a rate dependent on the profits, he would in the eye of the law become a partner; and then, he said, "You will, in the first place, be able to bind me and all the members of that partnership in any manner you please; and in the next place, I shall be liable for the debts of the concern to my last shilling." He declined to assist, and the invention remained valueless. The present system, it is further alleged, tends to lock up capital, by preventing retiring partners from investing any portion of their money in the concern of trade in which other persons participate; their only resource is, to put it into

banks or into the public funds, where it is not so actively employed in the production of wealth. Partners, it is true, *may* limit their liability by express deed; but it is seldom done, and still more seldom known to the world. So long as the limited-liability principle is not admitted, there are very few safe investments for persons of small means except chartered and corporate companies.

In view of the evils and inconveniences sketched in the above paragraph, many persons in England strongly advocate the adoption of the French system of partnership *en commandite*. These singular associations, or companies, are thus constituted. The partnership consists of *solidaires* and *commanditaires*. The solidaires are the managers or *gérants*, by whom the whole of the operations are conducted, and who are unlimitedly liable for the debts of the concern. The commanditaires are persons who place in the concern any amount of money that may be agreed upon; they have limited liability, limited to the extent of their investment; but, on the other hand, they have no control in the management (except perhaps in giving advice), and must depend for their profit on the success with which the gérants manage the operations. All the persons concerned in each partnership are acquainted with each other's liabilities; and as the conditions are registered, the creditors have the means of obtaining similar knowledge. The commanditaires are entitled to claim from the gérants a repayment of the amount they have advanced; but this claim is subordinate to that of other creditors. In some of these societies, the solidaires are allowed an annual salary as part of the working expenses, for their trouble and skill in managing the concern, and then an after per-centage according to profits. In some, the solidaires seem to be the originators, inviting the investment of money by persons who are to take no active part; while in others the commanditaires appear to be the originators, who carefully select two or three persons to act as managers for them; the former, however, better represents the real principle of the system. This *commandite* plan, under various designations, was early adopted in Italy, and under its operation the great republics of Florence, Genoa, and Venice attained a trading prosperity which, considering the circumstances surrounding them, was very striking. The system spread to France about two centuries ago; from thence it was initiated in Holland, where by its operation were executed many of the great works by which the Dutch have rescued large tracts of land from the sea. It extended from Holland to Germany, to Russia, and to other European states; and still later the United States of America adopted it. At Mülhausen, in Alsace, a great centre of cotton weaving and printing, almost all the operations are conducted by partnerships *en commandite*; the commanditaires reside mostly at Basle and Zurich, and provide the greater part of the capital; while the gérants, at Mülhausen, are the active and responsible partners. Many inventors, English as well as French, have brought out their inventions in France instead of England, for the protection of the *commandite* system. Mr. Hodgson told a Parliamentary Committee in 1853 (before the Limited Liability Act was passed), "I could mention whole trades which, thirty years ago, were entirely carried on by English houses, in which at the pre-

sent moment scarcely one is to be found; their places have been entirely supplied by foreigners, who establish branches of their houses in England, while the main establishments (almost all under the *commandite* principle) are abroad." It has been advanced, in recommendation of this principle, that one of the faults of large joint stock companies is avoided, viz., that persons of large capital do not take sufficient interest in the practical management of the concern. In a *société en commandite*, on the contrary, while the non-active members are liable only to the extent of their investment, the persons at the head of the concern are responsible to the last shilling they possess; and where the managers are thus personally and financially responsible, they are all the more likely to look sharply after the success of the concern. Mr. Whitworth, who went out as English Commissioner to the New York Exhibition in 1853, said in his Report on the machinery departments: "Limited liability produces very beneficial results in facilitating the introduction of new inventions and manufactures, and in causing the investment of capital by educated artisans, and thereby regulating the relations between employer and employed."

These various arguments in favour of the limited liability principle, whether applied to partnerships or to companies, have been combated chiefly on the ground of *honesty*. Many of our eminent men insist upon the danger of tempting debtors to get rid of their debts by such means. Mr. Buchanan, member for Glasgow, in one of the discussions on this subject in the House of Commons, represented the matter in this light: "The tendency of limited liability is to foster excessive and illegitimate competition in trade. No traders are so utterly reckless as those who have nothing to lose. And it will be found that in proportion as risk is limited, there will be a disregard of prudence and calculation. Wild and rash speculations will be encouraged by the knowledge that failure involves no irretrievable, perhaps no serious, result. Under such a law we should see arise innumerable partnerships competing with each other in total disregard of consequences, actuated by trade jealousies and rivalries, and rushing on in a career hurtful to themselves, ruinous to others, and destructive of all honest and legitimate trade." Mr. Hubbard, well known in connection with banking matters, stood up thus for the creditors' side of the question: "If a man lends money to a firm or agent, who does not trade beyond the limit of the capital in hand, then he is liable to lose only the amount which he has advanced; but if the agent trades to the extent of five or ten times that sum, then it is only fair that, if any one suffers, it shall be the capitalist, and not the innocent creditors. The capitalist would have taken his share of the profits of the trade, and ought to bear an equal share of the losses. Under the limited liability system, however, the principle on which the capitalist would trade would be, 'heads I win, tails you lose.'" We shall have occasion in a later page to speak of Mr. McCulloch's views on this subject; but here it will suffice to have indicated the general line of argument adopted by those who look with alarm or distrust on limited liability.

The reader will now be in a position to understand the course of legislation on various commercial matters, regarded as a struggle

between the two contending principles of limited and unlimited liability. Let us go back some few years, to see how one thing led to another.

As long ago as 1826 an Act was passed, empowering the Crown to confer charters of incorporation on certain trading and other companies, declaring in the charter some limit to the liability of the shareholders. As this was a favour, specially shielding the shareholders from that unlimited liability which would otherwise rest on them, it was understood that the companies thus favoured ought to be more than usually advantageous to the public. In 1834 an Act declared that "divers companies associate themselves together for trading, charitable, literary, or other purposes, which it would be inexpedient to incorporate by royal charters, although it would be expedient to confer upon them some privileges incident to corporations;" thereupon the Crown was empowered to grant *Letters Patent* to such exceptional companies. Shareholders' liability was to be limited, not in amount, but in time, terminable when they had for three years ceased to be shareholders. In the same year a particular statute placed on an improved basis the conditions for investing small sums in friendly societies, and insuring honesty in their management. In 1836 was passed an Act relating to Benefit Building Societies. Such societies had before existed; but this statute legalised and encouraged them, and applied many provisions of the Friendly Societies' Act to them. The shares were not to exceed 100*l.* each, and the payments not to exceed 1*l.* per month. The society was to buy or build houses, and to hold them as mortgages till all the instalments were paid up. The kind of liability was the same as in friendly societies. In 1837 was held one of many Parliamentary Committees, to inquire whether it would be safe to sanction the principle of limited liability in trade, more or less on the basis of the French *sociétés en commandite;* much useful information was collected and published, but the committee did not make any definite recommendations. In the same year was passed an Act for enabling the Crown to confer certain powers and immunities on trading and other companies, in the form of charters of limited liability. The first to avail themselves of this privilege was the Commercial Steam Navigation Company, for running steamers from London to the Channel Islands, France, and Spain. In 1841 an Act was passed, not immediately affecting liability, but strengthening the security of Banks of Issue; the banks were required to "make up just and true weekly accounts of the average amount of notes in circulation," and in other ways to give publicity to their proceedings. In 1844 a "Joint Stock Companies' Act" of some importance was passed. It was to apply to all companies formed after that date, and not provided with Royal Charters, Letters Patent, or Acts of Incorporation: all, at least, consisting of more than twenty-five members. There was to be "Provisional Registration" of all matters relating to the objects and constitution of the company, before even shareholders could be invited to join; and "Complete Registration" before actually commencing business. The shares became transferable only when this complete registration was effected. General meetings, audited accounts, and open proceedings, were insisted on, for the safety of shareholders. The liability, though less onerous

than before, was still enough to suggest caution; the shareholder being liable for three years after he had parted with his shares. Until this Act was passed, most of the joint stock companies since 1847 had sought to avail themselves of the Letters Patent granted by the Board of Trade, unless they were otherwise incorporated; but by the Act of 1844 no special favour was to be asked; a joint stock company became legalised when certain registrations had been attended to. In the same year (1844) a "Joint Stock Banks' Act" was passed; by the provisions of which all such banks, established after the passing of the Act, were to apply specially to the sovereign in council for Letters Patent. The capital was not to be less than 100,000*l.*, and the shares not less than 100*l.* each. If the Board of Trade approved of the terms of the petition, the Letters Patent were granted, authorising the working of the bank for a definite number of years, with *un*limited liability of shareholders. In the same year, also, another Parliamentary Committee collected evidence on the limited liability principle, but did not venture to recommend its adoption. Immediately after this began the railway mania of 1844-5-6, which impoverished so many persons; but as no shareholder was responsible for more than the amount of his share, whether the company obtained an Act or not, his ruin could only (unless in some exceptional cases) result from his own recklessness in investment or speculation. In 1846 another Friendly Societies' Act was passed, further protecting the members against fraud by placing all the undertakings in charge of a registrar, specially appointed for that purpose.

We now come to a year (1851), when the limited liability principle began to occupy more and more the attention of commercial men and legislators. Another Committee of the House of Commons examined the subject, and ventured on a recommendation which, if acted on, would have given a new aspect to the law of partnership. It was to the effect that any person might lend money for not less than twelve months, with limited liability, the interest to depend on the profits of the concern for which the money was used. But the Committee relied most on their recommendation that the Crown should appoint a commission to investigate the whole subject. Changes of Government prevented anything further from being done in 1852, except the passing of an Act (presently to be noticed) for encouraging Industrial and Provident Institutions, with *partial* limitation of liability; but in 1853 the Crown appointed the commission which had been recommended by the Committee. The commission, composed of judges, barristers, and commercial men, addressed queries to leading persons in most European countries concerning the practical working of the *commandite*, or limited liability principle; and they also examined commercial men at home. They framed a series of thirty-one questions, and sent printed circulars relating to them to ninety influential and experienced persons in the United Kingdom and America, and to twenty Chambers of Commerce. Seventy-five answers were received; and the Commissioners were not a little embarrassed by the result. "Gentlemen of great experience and talent have arrived at conclusions diametrically opposite; and in supporting their conclusions, have displayed reasoning powers of the highest order. It is difficult

to say on which side the weight of authority in this country preponderates." Then, to ascertain the opinions of foreigners on the actual working of the *commandite* system, the Commissioners framed a circular of fifteen questions in French, and sent copies of it to twenty-two firms and individuals. Of the result they say, "The opinions received from foreign countries preponderate in favour of limited liability; but many of the foreign correspondents, while bearing testimony to the beneficial operation of the law as to partnerships with limited liability in their own countries, suggest that it may, nevertheless, well be, that the circumstances of the trading interests of the United Kingdom may give it a very different operation here." When such men as Lord Ashburton, Mr. Norman, Mr. Francis Baring, and Mr. Nassau Senior, pronounced *for* limited liability, and Lord Overstone, Mr. Tooke, Mr. Larpent, and Mr. Horsley Palmer, *against* it, it is no wonder that the Commissioners found unanimity of opinion among themselves to be unattainable; they divided in the ratio of five to three against limited liability. In their report they put the question, "Whether the proposed alteration of the law would operate beneficially on the general trading interests of the country?" and they decide it in the negative. "We have not been able to discover any indication of the want of a sufficient amount of capital for the requirements of trade. The annually increasing wealth of the country, and the difficulty of finding profitable investments for it, seem sufficient guarantees that an adequate amount will always be devoted to any mercantile enterprise that holds out any reasonable prospect of gain, without any forced action upon capital to determine it in that direction; while any such forced action would have a great tendency to induce men to embark in speculative adventures to an extent that would be dangerous to the interests of the general commerce of the country. Moreover, we find no reason to suppose that the reputation of British merchants, either at home or abroad, would be raised by the establishment of firms trading with limited liability; but the contrary. Many of the opinions in favour of such a system are coupled with a recommendation of more stringent regulations, for the prevention of fraud"—which certainly seems to denote an apprehension of fraudulent tendency.

The House of Commons, however, evidently went with the minority of Commissioners. Mr. Collier, in 1854, brought forward a resolution, "That the law of partnership which renders every person who, though not an ostensible partner, shares the profit of a trading concern, liable for the whole of its debts, is unsatisfactory, and should be so far modified as to permit persons to contribute to the capital of such concerns on terms of sharing their profits, without incurring liability beyond a limited amount; and such modification is especially necessary in Ireland, regard being had to the peculiar social and industrial condition of that part of the United Kingdom." The last clause in this resolution was added at the suggestion of Mr. Lucas, who contended that a poor country needs limited liability more urgently than a relatively richer one. "The existence of the present law," he said, in reference to Ireland, "prevents industrious persons from being as industrious as they would be—prevents provident persons possessed of a little capital from applying it prudently and

profitably to the encouragement of commercial enterprises of various kinds in their own localities—prevents one class from being industrious, and others from being prudently enterprising in commercial matters." The Government opposed the resolution, as being contrary to the recommendations of the Commissioners; but the wishes of the House being irresistible, they yielded, and the resolution was agreed to. A return to the House of Commons showed that, between 1837 and 1854, there had been 164 applications for those charters of limited liability which the Crown, by the Act of 1837, was empowered to grant under special circumstances; about ninety companies and societies obtained these charters, among which were the Royal Mail Steam Ship, the Great Eastern Ship, the Peninsular and Oriental Ship, and many Gold, Banking, and Electric Telegraph Companies; together with the Society of Arts, the Great Exhibition of 1851, the Panopticon, the Crystal Palace, and the General Theatrical Fund.

The year 1855 witnessed the passing of the Limited Liability Act, applicable to *companies*, not to *partnerships*. Mr. Bouverie, on the part of the Government, and in obedience to the resolution passed in 1854, brought in two Bills, one relating to Partnerships and one to Companies. The first met with too much opposition to be successful, but the second was passed into a law. By its provisions, any joint stock company, except those for banking and insurance, established or to be established under the Act of 1844, might obtain a certificate of limited liability, upon complying with certain conditions; and any joint stock company formed on the basis of 1837, or under a private Act, might obtain a like privilege in the same way. The word "limited" is to form the last word in the name of the company. The deed of settlement is to be executed by not less than twenty-five shareholders, holding among them three-fourths of the nominal capital, and having paid up 20 per cent. of the amount. When three-fourths of the capital is lost, by unsuccessful trading, the company must "wind-up," facilities for which are afforded by another Act. Down to this date (1855), there had been about 900 companies registered under the Joint Stock Companies' Act of 1844; but now these, and an indefinite number of new ones, had the privilege of limited liability offered to them.

In 1856, those who approved, as well as those who disapproved, of the principle looked out closely for evidences of the mode of working. The 'Bankers' Magazine' said: "Curiously enough, the wholesale drapery trade has been the first to avail itself of the facilities of the new law; two associations having been advertised which professed to take up this branch of business." At first, during the Crimean war, there was not much disposition to speculate in new schemes; but, as the end of 1856 approached, a wilder spirit began to show itself. The 'Daily News' thought it well to administer a caution: "It may be requisite to impress upon the public the necessity of narrowly scrutinising the *personnel* and objects of the new schemes daily announced. There is a speculative spirit afloat. Should the public prove too eager to embark in speculation, and should mischief ensue, the opponents of limited liability will be furnished with a weapon of which they will not be slow to avail themselves." The

new 'limited' companies formed by the end of the year were very diverse in their scope: Liverpool Sacred Harmonic; National Opera; Crystal City, or British Madeira, "for maintaining residences in which an equality of temperature can be preserved, suitable to delicate constitutions;" Brighton Leutronicon (washing and ironing); Ladies' Guild, "for manufacturing decorated glass"; Anglo-Franc Steam Fish and Preserved Provision Importation; People's Club; General Picture Exhibition; Universal Purveyor, "for manufacturing and selling food;" Patent Telescope; Dutch Laundry; Patent Medicine Compounding; Pawnbrokerage; Cosy Conveyance; besides others relating in various ways to candles, cooperage, drapery, flour, paper, glass, rifles, manure, oil, beer, spirits, boots, bricks, cotton, agricultural implements, masonry, iron, books, fuel, pottery, electro-plate, newspapers, carpenters' planes, carriages, auctions, fire-escapes, sugar, soap, &c. In that year, 1856, another Act was passed, empowering any *seven* or more persons to form a joint stock company (for other purposes than banking or insurance), with permission to decide whether they will be registered with limited or unlimited liability, on compliance with certain conditions; and by another Act afterwards passed, any existing company, having unlimited liability, may adopt the limited system with the consent of three-fourths of the shareholders, duly registered and publicly announced.

The joint stock banks wavered for some time between the limited and the unlimited principles. In 1857 an Act was passed, declaring that *no* bank should have limited liability; that any number up to ten persons may form a banking *partnership*, whereas such was before confined to a maximum of six; that any number, of seven or more, might form a banking *company*, under certain conditions; that any limited liability banking company already existing should not be declared illegal, but might be wound-up on petition. In 1858, however, much of this was overthrown by another Act declaring that joint stock banking companies *may* have limited liability, but not for their issue notes; and that existing companies may apply for this privilege, provided they first informed their depositors.

In 1858, wishing to know how the limited liability principle was working, the House of Commons ordered a return of the joint stock companies, established on that principle, down to March 31st, of that year. The number was 886; of which the largest items were—244 companies for the construction and management of public works, 182 for working mines and quarries, and 139 for manufacturing articles of consumption or use. By the 1st of August, 1859, the number had risen to 1,146; and by the 31st December, 1861, to 2,141—including companies relating to Hungerford dining-hall; British and Colonial education, "for the purpose of carrying on the business of Mr. ——;" unadulterated food; furnishing ironmongery; merchant tailoring and outfitting; sack lending; desiccated milk; soda-water apparatus; Excelsior patent pianofortes; hexaglot Bibles; suburban residential clubs; bottle envelopes—and other strange purposes. One single number of 'The Times,' on almost any one day, would illustrate the avidity with which the limited liability principle was sought for, as if it were at once a sure means of making money. The advertisements

on some days jostled one another in the crowded columns, as if the one grand object of existence ought to be the investment of capital in limited liability companies. The tendency oscillated from time to time, owing to fluctuations in trade and in the money market; but it has not ceased to be generally active from 1860 until now.

Messrs. Spackman, who have at various times drawn up valuable tabulations of railway and joint stock enterprises, surprised the readers of 'The Times,' early in 1864, with a list of all the joint stock companies (other than those with special Acts) formed during the single year 1863. The list was a formidable one, embracing 263 companies, with an authorized capital of about one hundred millions sterling; the individual capitals ranging from 6000*l.* to 4,000,000*l.* Of the whole number, no less than 246 were under the provisions of the Limited Liability Statute, showing how firm a hold that principle had obtained on the public mind. All sorts of enterprises were included in the list,—banking, discount, financial, trading, manufacturing, insurance, shipping, hotel, mining, gas, &c. Wherever tourists or railway-passengers congregate, there were hotels marked out for them by new limited liability companies; at Brighton, Bridlington, Bristol, Buxton, Richmond, Eastbourne, Dover, Clifton, Devil's Bridge, Ilfracombe, Kinsale, Margate, Ramsgate, Broadstairs, Aberystwith, Kingstown, Blackpool, Southsea, Torquay, Weston-super-Mare, &c.; besides several in the metropolis, and others at Boulogne, Paris, Nice, Cannes, Marseilles, Alexandria, and Constantinople. A small number of good railway hotels have been successful adventures; and on the strength of this fact, numerous others have been started, with capitals varying from 10,000*l.* to 100,000*l.* What prospect may be before them, time only can determine. The new banking companies were 27 in number. Those remarkable establishments under the various designations of "Credit," "Financial," and "Discount" companies, which the success of one or two at Paris has brought into great favour in England, had fifteen added to their number in 1864. Mining companies figured for 49, and insurance for 14. In many respects, however, the manufacturing companies are most worthy of attention, in regard to their ultimate success; seeing that the limited liability principle will be severely tested by the fluctuating and uncertain amount of business transacted by such companies. The following will afford some idea of the manufacturing and trading groups, as selected from Spackman's list:—

Alexandra Slate and Slab.
Anglo-Indian Cotton.
Anglo-Parisian Brewery.
British Sugar Refinery.
British and Foreign Domestic Machinery.
British and Foreign India-rubber.
British Flax.
British and Honduras Flax.
British India Tea.
British Sewing Machine.
Building Material Improvement.
Cader Idris Slate and Slab.
Central Darjeeling Tea.
Cotton Plantation of Natal.
Dartford Creek Paper Mill.
East Kent Flour Mill and Bakery.
Equitable Furnishing.
Factage Parisien.
General Floating Dock.
General Petroleum.
General Steam Cultivation.
Gloucestershire Smelting.
Indian Tea Company of Cachar.
Lancashire Steel.
London and Lisbon Cork Wood.
London and Westminster Wine.
London India-rubber.
London Laundry.
London Paper Making.
London Permanent Exhibition.
London Scrap Iron Works.
Manchester Villa and Cottage.
Martin's Patent Anchor.
Metropolitan Lavatory.
Metropolitan Zinc Rolling.
Muntz's Metal.

National Armoury.
New City Club.
New Theatre.
North Warwickshire Woollen Spinning.
North Western Rolling Stock.
Oilseed Crushing.
Oriental Tea.
Ottoman Cotton.
Patent Concrete Stone.
Patent File.
Patent Lubricating Grease.
Patent Ventilating Granary.
Photogenic Gas.
Pneumatic Despatch.
Queensferry Alkali.
Residential Clubs.
Staffordshire Rolling Stock.
Storm's Breech-loader Small Arms.
Titanic Steel and Iron.
Tobacco, Cigar, and Snuff.
United London Newspaper.
West Central Horse Repository.
West of England Woollen.
West Surrey Farming.
Yorkshire Railway Waggon.

Down to the end of May, 1864, according to a return ordered by the House of Lords, there had been 3,830 joint stock companies formed and registered on the limited liability principle, of which 938 had *ceased to exist*. The nominal capital was stupendous, about 429,000,000*l*., of which about one-tenth had been paid up; the shares were mostly 10*l*. each.

Although they do not come under the designation of joint stock companies, the *Co-operative Societies* require mention here, partly because they illustrate the limited liability principle. These institutions have existed in Lancashire since 1847; one having been established at Bacup in that year. Indeed they are of earlier origin than this; for some of the co-operative bread and flour stores are more than twenty years old. The primary object is, to purchase provisions at wholesale prices, out of a fund subscribed in small sums by working men, and then to sell at retail prices to the members in the first instance, and to the public generally if the operations are successful. The inducements to the members are three-fold; 1st, to insure good weight and good quality of provisions, by being their own shopkeepers; 2nd, to appropriate to themselves the usual margin between wholesale and retail prices; and 3rd, to make a profit on the portion sold to non-members. Some of the societies fell to the ground from time to time, simply through bad management; but the greater number of them still exist and flourish. The legislature, willing to encourage these enterprises, so far as they seemed sound, passed Acts in 1852, 1854, and 1856 relating to them; but these were all superseded by a more comprehensive Act in 1862, which is at present the law on the subject. By this last-named Statute, any *seven* or greater number of persons may form themselves into an industrial and provident society, for the carrying on of any labour, trade, or handicraft, wholesale or retail, except banking, mining, and one or two others, which are provided for by other statutes. The members must draw up full and explicit rules for their guidance, which rules are to be submitted to the Registrar of Friendly Societies. If he approves of them, he gives a certificate of registration, which constitutes the society a body corporate, with a common seal, and limited liability. No member is to hold a greater interest than 200*l*. in the society. It will be seen that this organization is midway in character between those of joint stock companies and friendly societies. The societies may be either manufacturing or trading; they may either make, or simply buy and sell. In practice, however, the members confine themselves almost wholly to the latter class of operations. Hardly any of them keep factories

or workshops. Perhaps they are right; for it is a serious thing to conduct a large manufacturing establishment, in which either a committee must manage what they do not understand, or must be dependent on the skill, honesty, and energy of a manager employed by them. Still it *can* be done, and *is* done; for there are one or two co-operative cotton mills in Lancashire, and woollen mills in Yorkshire; and it may be that experience will gradually teach what to do and how to do it. At present, the operations are confined almost wholly to buying and selling grocery, chandlery, bread, flour, meat, drapery, shoes, hats and other necessaries for the families of workingmen. Some of the societies deal in bread and flour only, some flour only, some drapery only; while others embrace within their range all the miscellaneous odds and ends of a huckster's shop, treacle and tape, needles and nutmegs, lucifers and laces, pins and pens, candles and coffee, and so forth. It is well known that the poor pay highly for such things, in the small quantities usually purchased at one time; and there is a reasonable probability that a well-managed co-operative store would work an improvement in this matter. From a return presented to the House of Commons in May, 1864, it appears that no less than 381 industrial and provident societies were registered in England and Wales in 1863. The largest of them are two at Rochdale, which transacted business in the year to the amount, in one case, of 158,632*l.*, in the other, of 152,491*l.* Both are in the general provision trade, to which one adds that of corn millers. The financial entries are not clearly given in the return, concerning the profitableness of these undertakings; but in relation to the feature for which the subject is noticed here, limited liability, the results certainly present themselves under a favourable aspect. At the end of 1863 there were 108,588 members of societies, the assets of which were 793,500*l.*, and the liabilities 227,009*l.* There certainly does not seem to be much temptation to reckless trading in institutions like these, the members of which are so connected with each other by local interests.

Thus it will be seen that encouragement has been afforded by the legislature, during a series of years past, towards the formation of a large number of companies, societies, and other bodies, for the profitable investment of money, without involving the investors in unlimited responsibility; and attempts have frequently been made to carry the same principle into ordinary partnerships of two or more persons. For instance, Mr. Scholefield's Bill, in 1863, would have sanctioned partnerships with some partners limited and others unlimited in liability; a registration of names not mentioned in the usual title of the firm; an entry in the register of the amount put in by each partner, for what time, and on what conditions; an admission of clerks and other trusted servants to share in the profits of a concern, without incurring the liability, or acquiring the rights of partners; and a declaration that the bankruptcy of the firm need not involve that of the limited liability partners. The opposition to this extension of the system, however, has hitherto been too strong to be overcome. A large number of our steady commercial men still say, as they said to the commission in 1853, that there is exhibited no

want of capital for useful enterprises; that a limitation of liability would tend to reckless speculation, and would lower the character of the British merchant; that the principle *may* be good for the partners or shareholders themselves, but could hardly be so for the nation; that limited liability firms would compete unfairly in trade with those based on the old-fashioned system of unlimited liability; and that if good at all, the principle is good only for exceptional undertakings—such as useful public works, either too large for private partnerships to manage, or too small to require the costly machinery of a large company.

We have mentioned the name of Mr. M'Culloch. This authority in matters of political economy takes a very decided view of the subject now under consideration, antagonistic in many ways to that of Mr. J. S. Mill. The principle is now fairly placed on its trial; but it may be as well to state that Mr. M'Culloch has, from the first, been a strenuous opponent of the limited liability principle. He returns to the attack again and again, in the successive editions and supplements of his 'Dictionary of Commerce.' Banks, especially, he considers to be unfitted for the exercise of this system. He even goes so far as to say that "We cannot believe it possible, if an ordinary bank limit its liability, that half a dozen individuals will be foolhardy enough to intrust their money to its keeping; if they do, they will well deserve the fate which may be expected to await them —that is, to lose their entire deposits." Many have urged, that as limited liability has been found suitable to other enterprises, it may suit banking also; but Mr. M'Culloch disputes both the premiss and the conclusion. "When the cook has ascertained that a particular sauce is good for the goose, she may then, but not till then, think of applying it to the gander." The least objectionable mode, in the opinion of this economist, of adopting the limited principle, is in *routine* enterprises, such as railways, canals, gas-works, water-works, land reclamation or improvement, &c., where something permanent in character is constructed or produced; "because, although shareholders may be ruined, there is something tangible for creditors to fall back upon; whereas in companies formed for conducting ordinary or commercial business, the entire capital of the association may be lost or embezzled, without a farthing being left to the creditors." As to the generally-accredited statement, that the published accounts of limited liability companies place the actual condition of the concern fairly open to all, Mr. M'Culloch disputes it. "Suppose," he argues, "a partnership begins business with a capital said to amount to 10,000*l.* or 100,000*l.*, what security have we that such capital has been *bonâ fide* paid in, and will really be available? And supposing we have such security, it can be applicable only to the outset of the enterprise. In a year, or a couple of years, the capital may be wholly dissipated. What is to hinder the partners, if they are so disposed, from conspiring to divide among themselves 10 or 20 per cent. profit, when perhaps they have not made sixpence? And yet the association may, from the ignorance of the public with respect to its real situation, continue to enjoy the same degree of credit that it did at the beginning." There have certainly not been wanting proofs of the

facility with which this deception may be practised. A trial at Guildford, during the past summer, was one among many which have brought to light curious modes of making dividends to deceive shareholders. The improbability that ordinary manufacturing operations can be as well conducted by companies as by individuals, is insisted on by Mr. M'Culloch, irrespective of any suspicion as to honesty. "It is an absurdity to suppose that ordinary industrial pursuits can be so well managed by great associations of any sort, whether the partners be indefinitely responsible or not, as they will be by individuals or small associations. The latter act on their own account, and reap all the advantage of superior skill, attention, and economy; at the same time that they are indefinitely responsible for all the losses they may incur, and for all the mistakes into which they may fall, whether in the contrivance or the execution of their projects." As if to leave no part of the matter uncondemned, Mr. M'Culloch warns the working classes against indulging even in the small enterprises which *they* may look upon with favour, so far as the schemes are connected with the formation of companies. "If limited liability has really the effect of tempting the poorer classes to engage in them, this alone would be a very sufficient reason why all associations with limited liability should be suppressed. The condition of these classes will never be improved by withdrawing their attention from the businesses to which they have been bred, and in which they are engaged, to fix on joint stock adventures. The spirit of gambling and speculation is already quite enough diffused, without seeking to spread its baneful influence among the lower classes. Nothing should be done, which it is possible to avoid, to divert their attention from the pursuits of sober, persevering industry. Their surplus earnings may be far more beneficially invested in savings banks, in loans, and in friendly societies, than in joint stock adventures." Mr. M'Culloch's general summing-up of the question denotes clearly that he associates the idea of limited liability with that of repudiation. "The national character has suffered through this miserable system. Those repudiations which have so justly damaged the credit of the Americans originated in their attempt to limit their responsibilities in their public as well as their private capacity. And it could hardly indeed be expected that people who may contract debts to their neighbours, which they are not bound to pay, should be disposed to make an exception in the case of their foreign creditors."

As to the modes in which the above views are combated, we have already presented them in various forms. The arguments by which the system is advocated admit of the following classification:—If limited liability is bad, it must be bad in its effects upon the partners, the creditors, or the public, one of the three. Now (it is urged), it cannot be bad for the *partners*. If A B puts a sum of £1,000 into partnership with C D, A B cannot be injured, because his liability is limited; and C D cannot be injured, because it is more to his advantage to pay A B out of the profits *when he can afford it*, than to pay him a fixed rate of interest *whether he can afford it or not*. Again, it cannot be bad for the *creditors*. It is more to their advantage that the money should be advanced by a partner than that it

should be lent at a fixed rate of interest; because he would then rest upon the assets, and not upon a debt subtracted from the assets; and moreover, no one is bound to credit or to trade with a limited liability concern, if he distrusts the principle. Again, it cannot be bad for the *public*. The public is always well served in the end by healthy competition; and *un*limited concerns would have no right to complain if those on the limited principle headed them in success. If the latter should prove to be more prosperous than the former, it will be because they can supply the public better or more cheaply. There will, at the same time, be nothing to prevent persons from carrying on business on the unlimited-liability plan, if they prefer it, seeing that each plan has its own peculiar advantages. This is a useful mode of presenting the subject for argument: seeing that it presents three distinct challenges, each clearly worded, and each susceptible of being submitted to the test of experience without immediate reference to the other two. Professor Leoni Levi gives eight reasons why he would advocate limited with unlimited liability combined in the same partnership. If the ostensible partners are liable, it would be unjust to impose unlimited liability on others who openly declare the extent to which they are willing to be responsible. "1. Because it is unjust to charge a person with unlimited responsibility, against his public agreement. 2. Because the credit of the firm should rest, and does generally rest, on the character, known name, capacity, and prudential management of the ostensible partners. 3. Because, by allowing partnerships with limited liability, a greater capital would thereby be invested in the concern. 4. Because, although capital is abundant with some, there are thousands, in and out of commerce, who, under present restrictions, cannot employ their small means in the prosecution of successful undertakings. 5. Because, owing to the unlimited responsibility, men of capital are prevented from assisting individuals of industrious habits, or possessing special knowledge, or promoters of useful inventions. 6. Because, under a limited liability, retiring partners would more freely leave portions of their capital in the hands of continuing partners. 7. Because in some cases satisfactory agreements might be made between employers and employed, whereby the latter might acquire a direct interest in the prosperity of the concern. 8. Because any man should be allowed to do what he pleases with his capital and industry, provided he commits no wrong."

One fact is very evident, in connexion with the history of these schemes during the last year or two—that they afford a loophole for patentees, good and bad alike. Over and over again we meet with advertisements, announcing the formation of new limited liability companies, including the significant fact that "the provisional directors have succeeded in purchasing the valuable patent of Mr.——" for anything, no matter what we suppose the nature of the invention to be: many of them are silly enough. The prospectus does not state by what test, or by what data, the value of the patent was determined, nor by whom the arrangement was originally started. In too many cases it is a job, a piece of trickery. A patentee and an adventurer might easily be the authors of the scheme. It need hardly

be said that this is only the dark side of the picture, leaving untouched those schemes which are really planned with honesty, in relation to patents really valuable. The question is, does limited liability afford more temptations and facilities than unlimited, for the establishment of companies on deceitful promises? The answers to this question, founded on *a priori* reasoning, are directly contrary and contradictory; and this affords abundant justification for watching closely the career of the hundreds of new schemes, as a means of determining the truth by something better than theory. In other matters than patents, the proprietors of existing establishments are making such a 'good thing' of the method, that it suggests a doubt whether the new shareholders will derive any good whatever. A proprietor of a music hall, for instance, by a due admixture of negro melodists, acrobats, opera selections, ghosts, and refreshments, makes the concern profitable; he and his friends start a limited liability company, and name a good round sum to be paid to him for the surrender of the establishment; and then he "lends his valuable assistance as manager," at a handsome salary. He thereby secures all his past profits, and has a comfortable future berth without endangering his own capital if the affair should fail. Hotel-keepers, ship-builders, contractors, engineers, mine-owners, colliery-owners, quarry-owners, manufacturers, all are doing this, to a greater or less extent. The tact, energy, and skill of one man have founded an enterprise, and brought it into a flourishing condition. If all be honest, the property is worth the money agreed to be paid for it. But then arises a second question—will it be conducted by the company so well as it has been by the individual proprietor? will the manager throw his heart and soul into the undertaking as thoroughly as he did when he was the sole, the *liable* proprietor? If the answer be in the negative, it is easy to see who will suffer.

Be it good or bad, the tendency of speculation at the present time is unquestionably in the direction of limited liability schemes. In a recent article in the 'Bankers' Magazine,' it is stated that in the joint stock banks formed before 1847 there is a general decrease in the number of proprietors; and that it is among the *wealthiest men* that this secession has taken place—as if such men yearned for the security afforded by limited liability. The public appear to like the publicity of the system (if honestly conducted). The magazine deems it probable that all private banks will eventually merge into joint stock banks, and that all joint stock banks will eventually adopt the limited liability privilege. An approval of the principle, accompanied by a caution as to its excessive adoption, is wound up by the following significant words:—"*If this decade is to witness a panic in the money market, it requires no great effort to predict that it will be the result of limited liability.*"

GEORGE DODD.

NOTE.—The 'Companion to the Almanac' has, at various periods, contained articles upon the Limited Liability System, or articles directly or indirectly connected with it. The following may be referred to by those who desire further to trace the progress of the system:—

1851.—Industrial Associations.
1861.—Friendly Societies.
1862.—Co-operation in Lancashire and Yorkshire.

PART II.

ARCHITECTURE AND PUBLIC IMPROVEMENTS, LEGISLATION, STATISTICS, AND CHRONICLE OF 1863-64.

VII.—ARCHITECTURE AND PUBLIC IMPROVEMENTS.

1. General Progress:—Art and Public Monuments.

Six or seven years ago a company was formed to carry out an exceedingly ingenious invention. A drawing or engraving was transferred to a sheet of prepared india-rubber, and from this, by means of a very simple apparatus, and a little skilful manipulation, a copy was produced ready for printing from, either enlarged to twice or four times the size of the original, or reduced to a half or quarter; or, in fact, magnified or diminished in any proportion that might be desired. For decorative purposes, you could, if you wished, have your pattern not merely enlarged or reduced, but extended laterally or vertically, or modified so as to fit a concave or convex surface. It was very ingenious, and seemed to effect its purpose very well, but, somehow, did not answer commercially.

For a long time past the architectural mind has borne a strong resemblance to this machine. A design was taken, wholly or in part, from some old building, or put together from portions of several; expanded or diminished as was requisite to fit the site, or suit the means; dragged out laterally, or pulled up vertically; strained over a convex, or curved into a concave plane. In one case as in the other, you had, perhaps, a trifling disturbance of the proportions, some little distortion of the lines. But it mattered nothing; the customer did not observe the disproportion, or if he did, probably regarded it as a picturesque irregularity. It is not exactly an artistic process; but it is mechanical, it is semi-scientific, it is archæological; and this is the age when science, mechanism, and archæology triumph together. It looks learned, yet is so simple and rapid that it enables the architect to manufacture his churches by the score, and his schools by the gross, without any risk of wearing out his brain or injuring his productive faculties by excessive labour or hard study. The method has not been confined to practitioners in any particular style. It was introduced by the "Classic" architects, improved by the Italian professors, and applied on the largest scale, and with a great improvement in the machinery, by the mediævalists. Perhaps on no other system could the enormous demand for new buildings have been met. Certainly not so readily by the old-fashioned mode. It has so far answered its purpose that by it the country has been sown broadcast with temples, palaces, and churches; though, so far as the art is concerned, they might as well have been imported ready-made from Greece or Rome, from Italy or France, or, for anything one can see to the contrary, have been cast from a mould left by some

monk or mason of the middle ages. Critics, connoisseurs, and clergymen have rhapsodized over each in succession, and still stoutly admire one or other of them, and vehemently denounce the rest. But there are "forecasts" abroad which indicate a coming change—if indeed the change has not already commenced. The public is evidently growing tired of these endless reproductions and imitations, and architects are trimming their sails to catch the shifting breeze.

The change may be a mere variation of what has preceded, or some showy but transient novelty; or it may be the beginning of something better, more beautiful and more permanent.

The fashion of to-day is the Gothic. Born of the mediæval reaction, it has so won over the ecclesiastical mind that in church architecture it has long held exclusive possession; and in secular architecture it has established a firm footing. Even where another style is adopted you cannot fail to trace in it the mediæval influence. But, as we have pointed out in previous years, the Gothic of our time is not a distinct style. At best it is an archaism. And as an archaism it is not consistent. No two professors seem agreed on its characteristics. It has already passed through many phases, and at every turn presented a new form and countenance; and the variations are manifestly far from being exhausted. Whether nineteenth-century Gothic will acquire sufficient distinctness to attain a permanent place as a style, or whether it will pass away with the movement that gave it birth, and become in its turn as obsolete as the earlier modes, which each for its brief day was the fashionable idol, will depend on its professors.

It appears to have in it the germ of a vigorous life. The principles of the style it follows have been carefully studied and are sufficiently understood. Its advocates and practitioners are zealous and able. A form of architecture akin to that which shone so gloriously in the middle ages would seem to have an affinity to the northern mind, and essentially so to the English mind. Our true old English Gothic was an architecture of which any country might boast as among its greatest intellectual achievements. It was the outgrowth and ultimate result of the artistic and devotional feeling and constructive skill of its time: the fruit of the chastened imagination, the embodiment of the genius and knowledge of the age. And being so it exactly met the requirements of the age. But that age is not ours. Between the two is the chasm of the intervening centuries, among the most fruitful of great changes in the world's history. It is mere puerility, a wilful shutting of the eyes to what everything around us declares, to fancy that the chasm can be bridged over by the revival of mediæval forms. To play at mediævalism, to clothe oneself in its drapery, is an easy matter, and many find, and furnish, amusement and possibly profit in so doing. But it is not thus that a lasting work can be accomplished.

If Gothic is to become once more a true and living style, it will not be by the most learned or ingenious adaptation of precedents, however brilliant or beautiful; but by the development from the ancient form of a style that, embracing the entire cycle of existing artistic, technical and scientific knowledge, shall with a ready flexibility answer every call that may be made upon it, and wear on

its front the genuine impress and colour of the time to which it belongs.

It is not however to Gothic only that this applies. The same course lies open to those whose feelings and convictions have led them to adopt the Italian or any other style. If, taking as a basis that phase in which it was at once most beautiful and best corresponded to the exigences of the place and period, it be possible to work out from it a style that shall, as clay in the hands of a potter, mould itself to the wants and purposes of the present time, and assume in doing so a form of fitness and beauty, it will be a true and living style. Thus, in truth, it always has been. Every true style, every style, that is, which has ultimately taken a recognised place in the history of architecture, has grown out of, or been developed from, a preceding one. No genuine style has ever been formed by mere imitation. Eclecticism has been equally barren, and is equally hopeless. The complete development must be the slow result of many men's labour, but to it every one will contribute who, taking what has been done as his starting-point, works from it forwards, step by step, in unhasting, conscientious, self-reliance.

One decided step in advance we have certainly made. It is now pretty generally admitted that it is not enough that a building has a portico of faultless Ionic or correct Doric; that the façade is a true copy, or a tasteful modification, of a Florentine palace, or a Venetian library; or that for every pinnacle, moulding, and bit of window-tracery, a thirteenth, fourteenth, or fifteenth century authority can be quoted. In one and another important building lately completed, or advancing towards completion, it is evident that the architect must have made his design, almost with a single eye to the object for which the building was to be constructed; have contrived the interior with a primary view to convenience, and the exterior—making the necessary allowance for the exigences of a foreign or an antiquated style—to afford a clear expression of the purposes of the building.

Generally there is a growing desire for richness of ornamentation which may easily run into excess. This is shown very decidedly in the sculptural decoration. In several works recently completed, there is not only exuberance but extravagance in the external carvings. It is too often forgotten, by architects, that common carving is not fine art. It may be very well for mere decoration, but it should form an essential part of the general design, and be kept in strict subordination to it. But the passion for ornament that shall catch the eye—one might almost call it sensational ornament—is displaying itself most violently in the use of coloured materials. Shafts of polished red granite, or dull red Mansfield stone; of marbles of varied tints, of serpentine, or terra-cotta; bands, squares and specks of coloured stones or bricks; tiles, incised work, and different kinds of coloured ceramic wares are introduced in all sorts of places, sometimes with good effect, more commonly with the reverse; sometimes appearing tawdry, often eccentric, occasionally grotesque, and now and then ludicrous. An eye for colour is, in truth, rare even among painters, in whom the gift is studiously cultivated. In architects who seldom

study colour, as colour, it is almost necessarily rarer. The bulk of them have yet to learn how to employ it aright. All the great painters who have excelled as colourists, from Titian down to Reynolds, have employed the positive colours sparingly. Their colouring has been invariably sober in tone, however rich and splendid the general effect. In the new or renovated buildings, which meet the eye at every corner of our London streets; in every large and almost every small country town, and in a great many villages, what is called polychrome decoration obtrudes itself on the eye: but why this or that material was put where it stands, or why one colour here and another there; or why the colour is there at all, the longer you study the building, the more difficult it commonly becomes to resolve. As far indeed as London and the manufacturing towns are concerned, the question seems in a fair way of resolution by that universal solvent the atmosphere, which is already making havoc with the polished surface of marbles and granite, and smudging over the brightest colours with unanticipated "bands and stripes" of black and dirty green. Colour, if judiciously employed, is, however, an excellent thing, and may be made to add considerably to the cheerfulness of our dingy streets. Hence we look with much hope to an experiment about to be tried at Burslem, and which cannot fail to be suggestive, even if it should not be in itself a perfect success. A Wedgwood Institute is in course of erection there, as a memorial of our famous potter; and it is proposed to decorate the entire façade—and there are no windows above the ground floor—with ceramic ware: terra-cotta panels with figures of the months; the signs of the zodiac within the tympanum of a portico, surrounded by brilliant coloured mosaics; a cornice of buff-coloured terra-cotta; a frieze of coloured tiles, or perchance, if funds permit, Della Robbia ware; coloured portraits in circular majolica plaques; and panels of Wedgwood jasper. To bring all these into harmony, and to produce an agreeable whole, will be a difficult task, but the design looks well on paper, and, examined in detail, has "met the unqualified approval of the consulting referee," Mr. J. B. Hope—a very competent authority.

Turning now to our national buildings, we have to record the steady progress of the new Foreign Office, the magnitude and stately porportions of which are beginning to make themselves felt. As yet the building has hardly advanced far enough to permit itself to be fairly estimated as a whole, and it is too much encumbered with scaffolding for the details to be properly seen. That it will not satisfy the architect's Gothic admirers we may be sure, and probably it will find sharp critics in the disciples of the Italian school, who may think the chief Gothic champion is here trenching on his rival's domain. It is certainly a curious coincidence, or fatality, that the architects of the two greatest of our recent national works should have been constrained to execute them in a style to which they were comparative strangers—Barry, whose *forte* was Italian, having to build his greatest work, the Houses of Parliament, in a Gothic style, whilst Scott, Goth of the Goths, after designing his chief national work in Gothic, had to re-design and erect it in Italian—and that the two buildings should be in such close proximity.

Adverse Fate still counteracts the deepest laid schemes for our national collections. The Government, foiled in previous measures, had arrived at the decision to remove the National Gallery altogether from Trafalgar Square, and to give up the building wholly to the Royal Academy. Designs were accordingly made for a new National Gallery, to be erected in the grounds of Burlington House, sufficiently spacious for all present purposes, and for the additions likely to be made for a considerable time, and yet capable of future enlargement. It was shown that the site was only inferior to Charing Cross for public convenience, and far superior to it for the pictures; the design was noble and suitable, without being extravagant, and the plan appeared to be altogether the best as well as the most economical that had been suggested. But the House of Commons was resolved that the National Gallery should not be removed, and rejected the measure by a large majority. The Government have accepted the decision, and will, we believe, bring forward in the next session a new proposal, the chief features of which will be the displacement of the Royal Academy and the appropriation of the entire building to the National Galley. It is not, as we understand, intended to alter materially, if at all, the exterior of the present very unsatisfactory edifice; but the interior will of course be rerranaged, and spacious galleries will be erected in the rear, on the site of St. Martin's Workhouse.

The competition of last year brought forth thirty-two sets of designs for the new National Museum buildings to be erected on the site of the International Exhibition of 1862. Several of them were of a very elaborate character, but all bore a general similarity in the arrangement, corresponding to the plans issued by the Government. The judges were unanimous in awarding the first premium of 400*l.* to Captain Fowke. The second premium of 250*l.* was awarded to Professor Kerr; the third, 100*l.*, to Mr. C. Brodrick. As it is as yet uncertain whether it will be erected, a very brief account of the successful design will be sufficient. The grand front, in Cromwell-road, consists of a large central structure, and a smaller building on each side, considerably advanced, and connected with the central building by covered arcades; in other words, whilst consisting of three distinct buildings, the grand front forms a centre with two projecting wings. The central building contains the entrance vestibule, and a circular great hall crowned by a lofty cupola, with glass covered courts on either side. The right wing is intended for the Patent Museum; the left is unappropriated. Flanking the central building, extend an eastern and a western quadrangle. The space behind is divided into a central lecture hall, and on either side a series "of comparatively small chambors, as being more suitable for the arrangement of a scientific collection than the large open spaces necessary for more heterogeneous displays or collections." These chambers open out of a longitudinal corridor, and are lighted from above. All the chambers east of the lecture-theatre are assigned to the natural history collections. The western series are "reserved for other museums." There are of course numerous apartments for resident officers, offices, corridors, and so forth; and

ample provision is made for extension when required. On the whole, the internal arrangements appear to have been carefully studied, and to promise well. In the exterior, Capt. Fowke seems to have considered that he had here an opportunity afforded him of retrieving his International Exhibition failure, and of showing (what none of his previous structures would have led any one to suspect) that he had a feeling for largeness of style and brilliancy of effect. The façade is a sort of Italian, Florentine it may perhaps be called, and, without any particular beauty in the details, is rich and striking; and, consisting of well-arranged masses, which will supply materials for great breadth of light and shadow, will probably, if built in a fitting material, present a sufficiently noble appearance. But the large drawing was, it must be allowed, calculated to have a very misleading influence. In it, the building was shown as though it were to be placed in the midst of a spacious park, whereas it will stand in a comparatively narrow road. The judges were men accustomed to architectural drawings, and no doubt made a due allowance for the difference between the pretence and the reality; but the procedure was wrong, nevertheless, and it has been made one of the grounds of a formal protest against the decision, put in on behalf of the unsuccessful candidates. It may be that the design will, after all, never be carried into execution. If it be, it will no doubt be considerably modified. It is to be hoped that the central dome and the angle towers will at any rate be reconsidered. As they stand they are very unsatisfactory.

The Albert Memorial in Hyde Park is a work of too great magnitude, and of too elaborate a character, to make other than very slow progress. The contractor for the building is proceeding steadily with his part of the work, and arrangements have been made for the sculpture and mosaics; but it will be long before any important results are visible. It was described at length last year, but the design has since been slightly modified: in one point with unquestionable benefit. The "shrine" which is to enclose the statue of the Prince, it will be remembered, was to consist of a "tabernacle-like canopy, supported on four groups of quadruple columns." In speaking of Mr. Scott's drawings, we observed that "the vast tabernacle appeared to bear with a crushing weight on the supporting columns, which certainly looked, on paper, inadequate to their load." On reconsidering his design, Mr. Scott has felt that greater strength was necessary here. He has accordingly decided to set the columns in the four groups wider apart, and to put within the space they enclose a shaft more than twice the diameter of the original columns. On the face of this central shaft, and in the intervals between the smaller columns, he will place four slender shafts, which will serve to enrich and balance the grouping. His other modifications are partly constructional, and partly relate to the materials. In all its great features, the work will be as it was described last year.

In the country, many of the Albert Memorials are completed, and others are approaching completion. Such of them as have a special purpose, like the Framlingham Middle-Class College (see section 5), will, where necessary, be noticed under their proper heading: here those only which are of a strictly monumental character will be men-

tioned. The Manchester and Birmingham Memorials are still unfinished. That for the Peel Park, Salford, a statue by Mr. Noble, has been erected close by the statue of Sir Robert Peel. At Halifax, a bronze equestrian statue, by Mr. Thornycroft, has been recently placed on its pedestal of Aberdeen granite. The likeness of the Prince is said to be excellent; the horse is a portrait of Nimrod, a favourite saddle-horse of the late Prince. The cost of the statue was 1,300 guineas. A duplicate is to be set up at Wolverhampton. Mr. Woolner's excellent statue of the Prince has been placed at the east end of the court of the Oxford Museum, facing the principal entrance. A marble memorial statue, by Mr. T. Earle, has been inaugurated with some state by the Prince of Wales, in the grounds of the Licensed Victuallers' Asylum, Old Kent Road. The late Prince is appropriately represented in the costume he wore when laying the first stone of the Albert wing of the Asylum. The Abingdon Memorial, or Albert Cross, just completed, is rather an ambitious structure for a town like Abingdon. It has a quadrangular base, on the sides of which are medallions of the Queen. From this rises an octagonal shaft, with a richly carved entablature, and above it a pyramidal pedestal crowned by a statue of the Prince. Against alternate panels of the central shaft are columns of red Mansfield stone, with carved capitals supporting heraldic lions, seated and holding shields, on which are emblazoned the arms of the Queen and Prince-Consort. The memorial was designed by Mr. J. Gibbs, of Oxford; the sculptor of the statue is Mr. Bolton, of Worcester.

The Memorial Cross erected at New Radnor, to the late Sir G. C. Lewis, by the same designer, Mr. J. Gibbs, is much better in outline, and to our thinking in better taste, being simpler and more monumental in character than the Abingdon memorial. It is a structure after the Eleanor Cross type, but more solid, and only bearing so much resemblance as to testify to the relationship. It is octagonal, rising in three stages, from a stepped base, and is crowned by a spire, on which is a cross within a circle. On the lowest stage is a bust of Sir G. C. Lewis, with inscriptions, coats of family arms, &c. On the two principal stories are allegorical statues, as significant as such things usually are. A bronze statue of Sir G. C. Lewis by Baron Marochetti, has been erected in front of the Shire Hall, Hereford. The late statesman is represented in his usual costume, standing with his arms folded over his breast, a customary attitude when addressing a public assembly. The likeness is considered to be life-like and characteristic. A very good bust of Sir G. C. Lewis by Weekes has been placed in Westminster Abbey.

An unusually elegant altar tomb, designed by Mr. T. H. Wyatt, with a recumbent statue of the late Lord Herbert of Lea, by Mr. J. B. Philip, and a corresponding monument and effigy of his mother the Countess of Pembroke, have been erected in Wilton church; but these hardly fall within the category of *public* monuments, though raised in honour of one of the noblest among our recent public men. At Tavistock a statue has been erected of the late Duke of Bedford: it is by Mr. E. B. Stephens, of bronze obtained from the Bedford estates. On the Plains at Totnes a granite obelisk, 26ft. high, has

been erected in memory of Mr. W. J. Wills, who lost his life in the expedition into the interior of Australia, made under the direction of Mr. R. Burke. Mr. Wills was a native of Totnes, and the monument was raised by his fellow-townsmen in commemoration of his gallantry and devotion. Several other monuments have been erected, or taken in hand, but none seem to require comment or record. There are two, however, which are commissioned which have a special character: they are to be erected during the lives of the persons they are intended to commemorate. This is an innovation in the usual order of things. Except in the case of royalty, we have had only one example of a public statue to a living person—that of the Duke of Wellington. The personages who are to receive this exceptional honour are Field-Marshal Viscount Combermere and Sir Rowland Hill. The people of Cheshire have raised about 3,000*l.* for a bronze statue of Lord Combermere, and the gallant old general (he is ninety-one) went over to Chester a few months back along with the sculptor, Baron Marochetti, and selected a site for the statue, just outside the castle gates. The statue of Sir Rowland Hill has been subscribed for by the people of Birmingham; the sculptor is Mr. P. Hollins. These two may be sufficiently exceptional cases to justify the departure from the customary course; but it is to be hoped that all who have influence will set themselves against any repetition of so bad a precedent. If such a system is not steadily discouraged we shall soon have statues of this class "plenty as blackberries" and worthless as "testimonials." At least, let these be the last. When we have another Wellington we may consider whether it is worth while to make him an exception. Our lesser heroes may wait till they are dead before they are deified.

The haphazard way in which our metropolitan statues have been distributed has caused them to be taken less account of than they really merit. For the most part they are very poor, but we might have made more of them. A recent proposition seems to afford a fair opportunity of mending our ways in this respect. There is to be a statue of the Indian hero, Sir James Outram; and the First Commissioner of Works has, on the part of the Government, suggested to the Metropolitan Board of Works that a place shall be assigned to it on the land reclaimed by the Thames Embankment. The Board readily adopted the proposal, and appointed a committee to consider how effect could be best given to it.

The idea seems a good one. We have at present no open space suitable for erecting statues to our national worthies. Trafalgar Square might have have served for a good many, but it has been spoiled. The roadway along the Thames Embankment will be one of our chief highways; but its ample width, and the character of the traffic, will allow the passengers to survey the statues without danger to themselves or inconvenience to others. Moreover, the river road will always be one of the great attractions for visitors to the metropolis, and it is well that they should see in our most magnificent *place* memorials of our noblest men. Fortunately, the suggestion has been made early and with authority. There will now be ample time for a well-considered and comprehensive plan. The design of the public

way itself may be so far modified as to include places for all the statues we are likely to require for a long while—for, though the admission should, as regards range, be as unexclusive as the utmost stretch of liberality could desire, there should be great care exercised as to quality. Then the size, character, and material of the statues ought to be considered beforehand. Plainly, there should be no set type, nothing that could be a clog to genius; but the figures should not be of all sizes and in any material. One would like there to be some general standard. That, for example, known as the heroic, with the allowance necessary to give the relative height of the men, set on pedestals of artistic form and moderate height, might do very well. The material is more troublesome. Nothing is ever thought of but marble and bronze. But the surface of Italian marble (the only kind now employed by sculptors) rapidly disintegrates, and bronze blackens, by exposure to our atmosphere: and the river-side is not likely to be less injurious than the squares and streets. Might it not be worth while to inquire whether our chemists could not suggest some protective coating that might at once soften the rawness and protect the surface of newly-carved marble: the practice of the ancient Greeks is a sufficient precedent for such a *circumlitio*. Perhaps, too, they might suggest a different composition of bronze, that might at the worst contract a patina such as connoisseurs delight to contemplate on antique bronzes. It will never do to put our trust in the process which the First Commissioner of Works delights in. The reader has perhaps seen his experiments in "re-bronzing" the statues of George III. in Cockspur-street and George IV. in Trafalgar-square. The process carries a scientific name, but appears to be a species of painting, with the result usual in painting sculpture, of covering up all the finer gradations of surface handling. The colour given to the kings was probably a matter of accident—it could hardly have been chosen. Their aspect when they first escaped from the paint-brush was woful in the extreme: too pitiful for laughter, too absurd for tears.

Another great fresco, or rather a painting in water-glass, has been completed in the New Houses of Parliament. On "Moses bringing down the Tables of the Law," in the Peers' Robing-room, Mr. Herbert has been engaged for fifteen years. The actual time he has spent on it, he himself says, is, "on the fairest computation," six years and a half. There are of course differences of opinion as to its technical qualities, but by almost general consent it seems to be ranked as the noblest mural painting of a biblical subject yet produced in this country. Mr. Maclise, too, is making marked progress with his "Death of Nelson." Of the paintings in the corridors the less said the better. It has been decided that no more of the paintings in the Houses are to be executed in fresco. It is earnestly to be hoped, for the sake at least of Mr. Maclise's and Mr. Herbert's pictures, that the new process will be found more permanent than the "true fresco," which appears to have failed almost everywhere. The fine frescoes painted, from six to ten years ago, by Mr. Dyce, in All Saints' Church, Margaret-street, were a few months back found to have become in places so mere a wreck that it was deemed necessary to call in Mr. Armitage to repaint the parts that had perished, and adopt measures to preserve, if

possible, the rest. He has executed his task with great taste and discretion, and the pictures are saved for a time. Mr. Armitage still undauntedly adheres to "true fresco;" but it is too evident that under all ordinary circumstances true fresco, is for England a failure.

Of the mosaics which Dr. Salviati is executing for St. Paul's Cathedral, one has been set up. It is a representation of Isaiah writing his prophecies. The design is by Mr. A. Stevens, and, with some good points, cannot be pronounced satisfactory. Isaiah is in far too strained an attitude for his occupation; and the intensity with which he is looking at the tablet before him, gives the spectator the impression that he is near-sighted. The angels are better, but their wings are very awkwardly cut off. But the mosaic work is more unsatisfactory than the design. The ground, a bright gold, is painfully obtrusive, and almost destroys the somewhat dull colours of the principal figure. Great efforts are making with the aid of a "guinea national subscription," and other means, to raise the funds necessary for completing the decoration of St. Paul's. It is no wonder, however, that the money comes in rather slowly. The system adopted, and the selection of the artists, are far from unobjectionable. St. Paul's is eminently an English Church cathedral. It is the only cathedral built in England since the Reformation; it is the work of our most characteristically English architect; and there is a strong opinion abroad that English artists might have been found competent to execute the decorations. This is set down as prejudice, and may in part be so: but, on the other hand, it is asking too much to require people to believe, that, in the present condition of art matters, it should be necessary to go to Munich, France, and Venice for the painted glass, the marble work, and the mosaics of our metropolitan church. However, it has been done, and we are content to wait in patience for the result.

2. Public and Sanitary Works.

A separate article being devoted to Railways, it will only be necessary here to note very briefly the new metropolitan lines, in continuation of what was said respecting them last year. Of the lines then in progress, the London, Chatham, and Dover has been carried most rapidly forward. Its works are on a large scale; and the directors having called in architectural assistance, a good deal of unexpected taste has been developed. The station in the Blackfriars-road, at the south foot of the bridge, is a large, convenient, and in many respects handsome structure. The interior is lofty, roomy, and appropriate; in the exterior very effective use has been made of moulded bricks.

The bridge which carries the railway across the Thames is in magnitude by far the most important railway bridge yet erected in London. It is 1040 feet long between the abutments, and 55 feet wide, and consists of a centre span, 202 feet 6 inches; two intermediate spans, each 192 feet 3 inches; and two end spans each 176 feet 9 inches. Its level above high-water mark is 32½ feet. The frame-work of the bridge consists of three series of main lattice girders,

at the sides and along the centre, each fifteen feet high, but the centre girder, having to bear the main strain is double the strength of the others. To these the transverse girders of the platform are firmly riveted. The whole of this superstructure is borne on quadruple groups of immense cast-iron columns, which rest on solid stone piers, which are carried down to a depth of 30 feet below the bed of the river. Every provision is made for the strength of the bridge, which has stood triumphantly all the tests yet applied to it. And it is not only strong, but handsome. Without going to the lengths of some of its more fervid admirers, we may cheerfully admit that it is far superior in effect to what the original design promised. Its massive groups of columns impart to it an air of dignity and stability, and the superstructure is light without seeming fragile. The works on the city side of the Thames are advancing towards completion. The Ludgate station, will have its principal front, of great length, towards Bridge-street, but set back about 30 feet. In general character it will resemble the Blackfriars station, but will be more ornamental. The Company have purchased the site of the old Fleet prison, for their goods station. It will be connected with the Ludgate station by the viaduct which crosses Ludgate-street, and which is now carrried far enough to show how miserable a disfigurement it will be to what was heretofore the most remarkable piece of street scenery in the metropolis. The line is to be carried northwards to join the Metropolitan Railway, and every preparation is made for proceeding vigorously with the works.

Of the Charing Cross Railway it will be enough to state that the line is completed, and in full operation. The station and hotel, the only part unfinished, will be spoken of elsewhere. The City extension to Cannon-street of the South Eastern Railway is being proceeded with as rapidly as is compatible with works of such magnitude. Now that the space is cleared from Cannon-street to the river, the boldness of the undertaking, the value of property thereabouts being considered, will be more readily appreciated. The bridge is proceeding, and promises, from what can be seen of it, to be a considerable improvement on the Charing Cross bridge—the work of the same engineer, and executed for the same company.

The North London line, from Kingsland to Finsbury, has completed its work of demolition, and is now being constructed rapidly along its whole extent. As mentioned elsewhere, about 900 houses have been pulled down for it. Its interference with the levels of the streets east of the Kingsland-road is also somewhat surprising. Some of the bridges, the skew bridge near Shoreditch church, among others, are noteworthy as engineering works. The Midland is constructing vast stores and other works at Agar Town, but is as yet making little visible progress with its London extension.

These are all lines which were mentioned last year. Some notice of the new lines brought forward in the session of 1863-4, will be found in the article on railways. In all there were 26 Acts passed for new lines or extensions in the metropolis, involving the construction of about 70 miles of railway in what the Lords' Committee defined as the Metropolis Railway District, and nearly double that number of

miles in the area now usually termed the Metropolitan District. Of the new lines, the most remarkable are those which form extensions of the Metropolitan Railway, or are directly connected with it. The lines thus connected will form a railway, girdling the part of London which lies between the present Metropolitan Railway and the Thames, and the western side of Kensington-gardens and the Tower. This railway girdle is thus made up. Commencing from the Metropolitan Railway by the Edgware-road, the *Notting-hill and Brompton Extension* proceeds westward across Leinster-gardens by Moscow-road to Pembridge-square, when it turns south, crosses the foot of Notting-hill, and passing along Church-lane, crosses the Kensington-road to the Kensington workhouse. Here it passes into the *Metropolitan District Railway*, a much more magnificent undertaking, short branches of which at this point connect the line we have followed, and that we are about to trace, with the West London Junction, and by means of that with the Southern, Western, and Northern lines generally. The Metropolitan District line passes through South Kensington and Old Brompton, not far south of the site of the International Exhibition and the Kensington Museum; thence bears south-east through Chelsea to the Victoria station, and proceeds along the centre of Victoria-street and by Tothill-street to the foot of Westminster-bridge. From this point it is to be carried along the Thames Embankment to Blackfriars-bridge, and will have at Charing Cross bridge an exchange station with the Charing Cross and North Western and Charing Cross lines. From Blackfriars-bridge it will pass under the London, Chatham, and Dover line, and then eastward for a short distance along the proposed new street from Blackfriars to the Mansion House, Knight-Rider-street, Cannon-street, to the New City terminus of the South-Eastern Railway, and thence crossing King William-street by the statue, run parallel to Eastcheap and Tower-street, and by a curve to Trinity-square, Tower-hill. Thence under the name of the *Metropolitan—Trinity Square Extension Railway*, it will bend round by the Minories; join soon after by a short branch the Blackwall line; cross Aldgate High-street; then turn westward, and, after traversing the back streets east of Houndsditch, cross Bishopsgate-street, passing along Liverpool-street, where are to be the new termini of the Great Eastern and North London lines, run through the centre of Finsbury Circus, and soon after complete the circle by joining the new Finsbury terminus of the Metropolitan Railway at Little Moorfields. Although, as has been seen, the line will pass close to the termini of several metropolitan railways, there will only be *exchange* stations at those places: the rails will nowhere be connected. The intention is that the trains shall run continuously round and round the circle, only stopping to take up and set down passengers at the several stations as they proceed.

That this Inner Circle Railway, if carried out, will be a great convenience to the western suburbs, by providing a direct and ready communication with the metropolis and with so many of the leading railways, there can be no question. It will probably be found even a greater convenience to the inhabitants of the metropolis. Being an

underground line, the number of houses destroyed by it will be comparatively small. But remembering the great and long protracted inconvenience caused by the formation of the Metropolitan line from Farringdon-road to Paddington, although that was for the most part along a broad and open road, the hindrance to street traffic and business, which must be produced by the carrying of it through the narrow and crowded streets it has to pass under in the city and elsewhere, is almost alarming to contemplate. The sewers throughout will have to be altered; in many places they will be almost destroyed. Their reconstruction, as Mr. Bazalgette observed in his official report to the Metropolitan Board of Works, "would be very difficult and costly, and a revision of the general system of drainage would be necessary." Engineering skill will no doubt accomplish whatever is required in this matter; and happily the great Low Level sewer is at a sufficient depth to "afford an outfall for any sewer the proposed railway may destroy." The cost might indeed be supposed enough to frighten the most sanguine of projectors; but the engineers and directors, if not the shareholders, have no doubt taken that matter into their consideration.

The *Metropolitan and St. John's Wood Railway* will start from the Metropolitan Railway at the Baker-street station, pass along Park-road, Wellington-road, and the east side of the Finchley-road, to the Finchley-road station of the Hampstead Junction Railway.

A short, but very important, underground line sanctioned last year is the *North-Western and Charing Cross Railway*, intended to unite the South-Eastern line with the North-Western. From the north abutment of the Charing Cross bridge it will pass with a steep incline under the Strand opposite the Lowther Arcade; cross King William-street; pass along the line of Upper St. Martin's-lane, and through Seven Dials to Oxford-street, whence it will be continued northward along the eastern side of Tottenham Court-road and Hampstead-road to Oakley-square, where it will terminate in the North-Western line. The main feature connected with this line, as far as the appearance of the district traversed is concerned, is that the company has undertaken to construct a new street of noble proportions from the Strand, east of St. Martin's church, along the present St. Martin's-lane through Seven Dials and west of St. Giles's church to Oxford-street, opposite the Tottenham Court-road; thus forming a wide and direct thoroughfare from Charing Cross to the north. This, as we have more than once pointed out in these pages, has long been one of the most needed improvements in the metropolis, and one of the most easily effected. For its accomplishment we might well be content to bear with the temporary inconvenience caused by the construction of the railway, if even the ultimate advantages of such a line were less apparent. Even the displacement of the population in the crowded and wretchedly poor streets and alleys about Seven Dials is the less to be regretted, seeing that these in their present state are a nursery for fever and a harbour for crime. It is most earnestly to be hoped, however, that some sufficient means will be devised for saving the wretched inhabitants from being driven into still more crowded and unwholesome dens.

The most important of the metropolitan aboveground lines, sanctioned in 1864, are those of the Great Eastern Railway. The *Great Eastern Metropolitan Station and Railways Act* empowers the company to form a great city terminus on the northern side of Liverpool-street, Finsbury, immediately east of that of the North-London Railway, the space cleared for the two termini being of great extent. From this terminus the line is to run nearly north for half a mile through back streets, cross Bishopsgate-street Without, by White Lion-street and Commercial-street, and thence continue along the south side of the parent line from the present terminus at Shoreditch to near the Bethnal Green-road. Here it quits the main line and proceeds parallel with and on the western side of the Cambridge-road to Hackney, where, by two short branches, it unites with the North London Railway. Continuing northwards, it passes through Dalston, where a branch, to be noticed presently, diverges to the right. It then passes onwards across Newington-common and Stamford-hill, where by three short loops it joins the Cambridge branch of the Great Eastern line, and the Tottenham and Hampstead Junction Railway. It is then continued through Tottenham to Edmonton, where it joins the Enfield branch of the Great Eastern. The branch just mentioned as diverging from it at Dalston proceeds north-eastwards across Hackney Downs and Upper Clapton, to the Leyton Marshes, where it unites by two short loops with the Cambridge branch of the Great Eastern, and crossing the Lea by Harrington's Hill is continued through Walthamstow to its junction with the High Beech line, near Church End. The *High Beech Branch* starts from the main line of the Great Eastern at Stratford, and runs in a generally northern direction through Leyton and by Wood-street, east of Walthamstow and Chingford, along the western side of Epping Forest to High Beech—to be continued some day onwards to Epping. Of these lines the London end of the Metropolitan Extension, the whole of which will be carried on a viaduct, and for the most part through an extremely poor district, will interfere most seriously with house property, of which the destruction must be very great.

The *Kensington, Hammersmith and Richmond* branch of the South Western Railway is to commence at the Kensington station of the West London Railway, proceed westward across Shepherd's Bush-lane, and then curving south, cross the Hammersmith and City Railway and Bradmore-lane, near Broadway, Hammersmith. From this point it is carried westward for two miles a little north of the Uxbridge-road, through Acton Common and Back Common, and turning round to the south beyond Turnham Green (where a short line will connect it with the North and South Western Junction), crosses the Great Western-road by the "John Bull." Proceeding southwards, it will cross the Thames at Strand-on-the-green, and running along the east side of Sandy-lane, Kew, join the Richmond Railway a little east of the Richmond station.

A line lying like the last just outside the boundary of the Metropolitan Railways district, as defined by the Lords' Committee, but which with it seems destined to form a useful link in uniting the lines north and south of the Thames, is the Finchley, Willesden, and Acton

Railway. Starting from the North and South Western Junction Railway at Acton Wells, it is to run northward to Willesden and then north-westward by Dollis Hill to Cricklewood, where it will join the new London Extension line of the Midland Railway. The extension to Finchley is, at least for the present, abandoned.

The only other Acts referring to railways on the north side of the Thames are those obtained by the Midland, giving certain powers of deviation with reference to their London Extension, for the construction of a short line to run from their main line at Caversham-road parallel with the east side of the Junction-road, Kentish Town, through Tuffnell Park to the Tottenham and Hampstead line in the Holloway-road; and by the London and Blackwall Railway for some unimportant additions at Stepney.

The new lines south of the Thames scarcely affect the Metropolis proper. The London, Brighton, and South Coast Railway has obtained power to lay down several short slips at Battersea, with a view to improve their present traffic arrangements there; and for the construction of a new line from that at present in progress at Peckham, south-west, through Dulwich to Knight's Hill, Norwood. The London, Chatham, and Dover is to have a short line parallel to Norwood-lane on the east side of Knight's Hill; and some short slips in the neighbourhood of their Deptford and Lewisham stations; whilst a short connected line is to extend in a south-westerly direction from Deptford to the South London Railway near the Camberwell Cemetery, in the Forest Hill-road. The South-Western Company has merely obtained an Act for a short additional line between Battersea and Clapham Junction; but from its station at Wimbledon a rather curious line is to be constructed. This is the Tooting, Merton, and Wimbledon Railway, which will connect Wimbledon with the South London, Tooting and Sutton Railway, and the London, Brighton and South Coast lines generally, by two curved lines which are to pass round Merton, one on the south and the other on the north, meet someway south of Tooting church, and then continue as one line eastward to the lines above named on the south side of Streatham Park.

The reader who has crossed the Thames by Westminster, Charing Cross, or Waterloo Bridge, or has been along that portion of the river, must have noticed the activity with which the works of the Thames Embankment have been prosecuted during the past summer, and the marked progress made in filling in the large space that is being reclaimed from the bed of the stream. In the "Companion" for 1863 the general plan of the Thames Embankment was described, and in that for 1864 its architectural character was spoken of. It will be enough, therefore, before giving a short notice of the works, to repeat that the embankment will extend from Westminster-bridge to Blackfriars-bridge, a length of a mile and a half. Here, for the present at least, the embankment of the river will cease; the thoroughfare formed by it being continued eastward by a new street, crossing Cannon-street to the Mansion House.

The line of the embankment is, necessarily, determined by that of the river's bank, without taking account of its minor irregu-

larities. The area included by it, and gained from the river, will vary in width from 430 feet at Hungerford, 200 at Waterloo-bridge, and about 300 at the Temple, to a much narrower space eastward. The embankment will consist of a retaining wall of masonry, facing the stream, with a backing of brickwork; and, in addition, counterforts (that is, short thick walls or buttresses, built at right angles to the main wall) are to be constructed at distances of six feet, the intervening spaces being filled with concrete. Behind is the bedding of ballast, which will fill the area reclaimed from the river, and the shooting of which has been going on almost without interruption for months past. Along the embankment will be a magnificent road of a uniform width of 100 feet; the roadway being 70 feet wide, and the two pathways each 15 feet. At regulated intervals will be landing piers for steam-boats, not mere wooden "dummies" like those now in use, but substantial architectural structures, which will form striking and ornamental features of the whole scheme. Along the entire length of the embankment will be carried a "subway," in which the gas and water pipes will be laid; thus providing against the most annoying and mischievous practice, of such constant occurrence in ordinary streets, of breaking up the pavement to get at the pipes. This subway will be an arched passage, with a flat floor, 9 feet wide and 7½ feet high, the crown of the arch being 2 feet 2 inches below the public footway. About 4 feet below the subway will run the great low-level sewer, a circular tunnel, ranging in diameter from 7 feet 9 inches, clear, at Westminster Bridge, to 9 feet at Blackfriars, and formed of three courses of picked bricks, set in the best Portland cement, as indeed is the whole of the work, the use of mortar in any part being strictly forbidden. This sewer, as is well known, is intended to carry off the entire drainage of that part of London which lies along the northern bank of the Thames; but as it would manifestly not do to let so strong and costly a work be pierced at frequent intervals, for the reception of the local drainage of this part of its course, an oval intercepting drain (4 feet 2 inches by 2 feet 8 inches) will be carried along further in from the river, close to the present river bank, in fact, for a length of 3,200 feet. Besides all this there will be within the embankment spacious storm-water and overflow chambers, weirs, penstock chambers, and storm outlets; so that in the most violent storms there may be no danger from the sudden rush and accumulation of water, ample provision being thus made for relieving the main sewer and, if necessary, letting off the surplus water—at such times almost free from offensive matter—into the Thames. The floor of the main sewer will be about 18 feet below high-water mark; that of the subway 5 feet 6 inches. The footway for passengers will be 4 feet above the high-water line.

For facilitating the construction of this stupendous work, it has been divided into three sections. The first, of 3,740 feet, extends from Westminster-bridge to Waterloo, and has been assigned to a contractor (Mr. Furness) who is bound to complete it in 1866 at a cost of 520,000*l.*—the original contract, named last year, not having been completed. The second section from Waterloo-bridge to Temple-gardens, 1,970 feet, is assigned to Mr. Ritson at 229,000*l.*, and is

also to be completed by the end of 1866. The third contract is not yet let. On these two sections the works are proceeding with extraordinary activity. Far in the river are lines of piles and lofty staging; rough railways are laid down; huge "travellers" are fixed aloft, and locomotives and portable steam-engines are seen puffing energetically and unceasingly in places seemingly the most difficult of access to creatures of that order: whilst the whole lower area, half mud, half dry rubbish, is spotted over with men, horses, and carts, busy as ants, and looking almost as insignificant, in proportion to the space they have to cover and the work to be accomplished in so short a time. However, from month to month the result of all this industry becomes evident enough, and when once the river is barred out, the progress will be still more rapid and appreciable.

The manner of constructing the embankment proper is very simple. The line of direction having been roughly blocked out by piles, a continuous coffer-dam has to be constructed. This is done by driving into the bed of the river a connected line of iron caissons. These caissons are (in the first section, in the second a somewhat different form has been adopted,) elliptical cylinders, or tubes, made in lengths of 4 feet 6 inches; and 12 feet 6 inches in the long, and 7 feet in the short, diameter, with grooves at the ends for the guiding piles, which are to form with packing a water-tight joint. The caissons are forced down into the bed of the river by loading them with heavy bars of iron cast for the purpose, of a form to fit on to the caissons, and scooping out the earth from the inside by a simple dredging apparatus. As the earth is removed, the weighted caisson sinks deeper, and the procedure is continued, new lengths being added as is necessary, till the London clay is penetrated the depth of two or three feet, and the caissons can be made to sink no further. The water is then pumped out, the lower lengths, which are to be permament, filled with concrete, and the joints between the adjoining caissons made water-tight. When an impermeable river wall is thus made of sufficient length, 100 to 200 feet, according to circumstances, a return wall will be carried towards the shore, the tidal water be allowed to flow out, and secured from re-entrance. A dry area will thus be formed, within which the construction of the retaining wall and the works behind it can be proceeded with as readily as on ordinary land. In the first section about 700 feet of caissons have been completed. Eventually the caissons will be removed down to a level of eight feet below low-water mark, the portion below, filled with concrete, being left as a protection to the foot of the retaining wall. This wall will be constructed of granite, with a brick backing, the foundations of concrete being carried down to a depth of 14 feet below low-water level. The concrete will be about 7 feet 6 inches in thickness. Into it will be built the solid brick base and backing. The granite facing will be carried down to about two feet below low water, with a curved batter, or incline inwards. It will be constructed of red Mull granite below low-water level, and with white Dalbeattie and Kirkconnell granite above; the blocks employed for the purpose being of an average weight of two tons. The parapet of the wall will be 24 feet above low water, 7 feet above high-water level. Of the first section, a space of 100 feet

is being enclosed. In the second section, the first portion of the brickwork, about 120 feet long, is built up ready to receive the masonry of the retaining wall.

This may be taken as a rough sketch of the works of the Thames Embankment proper; but, as we have seen, an Act has been obtained empowering the construction of an underground railway within the embankment. The railway will be carried along the new-made ground between the road-way and the houses. At its commencement by Richmond-terrace, it will be "about 250 feet from the embankment wall; 120 feet at Charing Cross Railway-bridge; about 50 feet at Waterloo-bridge; 270 at the Temple, and from thence it will pass near the present buildings on the river side, and leave the Thames Embankment at Bridewell wharf." (Bazalgette). It is reported that no provision has been made for the railway company carrying on their works simultaneously with those of the embankment, and that no preparations are making for their early commencement; but it can hardly be possible, that so costly a mistake will be made as to leave the beginning of the one work till the other is completed, or nearly so, and thus not only necessitate the undoing of much of what has just been done, with possible injury to what is left, but needlessly prolonging the public inconvenience, and perhaps deferring their enjoyment of what we may hope will be one of the most enjoyable, as it will undoubtedly be one of the most magnificent, public improvements of the age.

The works of the Southern Embankment, which is to extend, as will be remembered from Westminster-bridge to Vauxhall, will probably be begun next spring.

The still more costly and stupendous undertaking of the Metropolitan Board of Works, the Main Drainage of London, is proceeding with undeviating regularity. Having in previous years described the works at some length, we shall now merely state what progress has been made. Of the works north of the Thames, the Northern High Level Sewer, 9 miles in length, has been completed at a cost of 203,816*l.*; the Northern Outfall Sewer, consisting of 5¼ miles of double and treble sewers, at a cost of 643,000*l.*; the Middle Level Sewer, 12 miles long, has been completed (or nearly so), at a cost of 325,000*l.*; and the Northern Outfall Reservoir, for the storage of sewage, at a cost of 166,500*l.* The Northern Low Level Sewer is of course greatly dependent on the progress of the works of the Thames Embankment, of which it forms an integral part. Already, however, about 5 miles of it have been constructed at a cost of 150,000*l.*; whilst of the Western Sewers over 4 miles have been made at a cost of 65,000*l.* Of the works south of the Thames, the Southern High Level Sewer, 9½ miles long, has been completed at a cost of 215,299*l.*; of the Low Level Sewer, nearly 7 miles have been constructed, at a cost of 175,000*l.*; the Bermondsey Branch Sewers at a cost of 96,000*l.*; the Southern Outfall Sewer, at a cost of 310,648*l.*; and the works at Crossness up to the present time have cost about 265,000*l.*

It is so far satisfactory to know that the drainage of a large part of the north, and the whole of the south, side of the Thames, or nearly

half the sewage of London, is now discharged into the Thames, at Barking on the north, and Crossness on the south, "so far out of the Metropolitan limits, and at such a turn of the tide, as to carry the obnoxious fluid seawards," and beyond danger of injuring the health of this great city. But something more than this has become imperatively necessary. As London is endeavouring to purify the river, the towns above are trying to pollute it. Kingston-upon-Thames, with Surbiton, for example, some time back, came to the very proper, and very necessary, resolution to carry out a thorough system of drainage. Main sewers of a large size, with a network of subsidiary drains, were laid, but the whole was arranged so as to pour the contents direct into the Thames, below, but only just below, the place whence the London Water Companies draw a large portion of their supply. An attempt was made to arrest the mischief, by the insertion of a clause in a bill before the House of Commons, but it was rejected by the Lords on some point of form; and, after spending millions for getting rid of the sewage from London, we were about to receive a new supply from a large and rapidly increasing town. Happily, the evil has been staved off for a while; the Conservators of the Thames having applied for and obtained an injunction to restrain the corporation of Kingston from opening any drain into the Thames. But, even should the injunction be made permanent, there are numerous other large villages and towns, as Richmond, Windsor, Henley, and Oxford, which already drain into it, or, in any local improvement, will do so.

In truth, the question of the pollution of rivers by sewage has, with the general extension of town drainage, come to be one of the most urgent sanitary questions of the day. Whilst it is admitted on all hands that pure water is of primary importance to the public health, we have suffered, one after another, the rivers by all our larger towns to be converted into receptacles for the town sewage. Even where the water for drinking is obtained from a purer source, the constant presence of a polluted stream cannot but be injurious to the health as well as offensive to the senses of the inhabitants. The only remedy is to enact that no sewage shall be carried into any river; and there can now be little doubt that it is a remedy that may be applied with little if any injury to even the pecuniary interest of the places affected by it. A committee of the House of Commons after examining as witnesses chemists, agriculturists, engineers, and others of great experience as well as professional eminence, and carefully considering the various statements submitted to them, arrived at a decided conviction that "it is not only possible to utilize the sewage of towns by conveying it in a liquid state through mains and pipes to the country, but that such an undertaking may be made to result in a pecuniary benefit to the ratepayers of the towns whose sewage is thus utilized." This is certainly a comforting assurance to those who fear the cost. But, under ordinarily favourable circumstances, there seems little reason to doubt the result. Croydon is a striking case in point. It was the first town to take advantage of the Health of Towns Act. It obtained an improved water supply, and carried out a complete system of pipe drainage. After the first mistakes, arising

from inexperience, were remedied, the drainage was found to work admirably. But now a new trouble arose. The sewage was carried into the Wandle at Beddington, and a stream limpid as beautiful was converted into an intolerable nuisance. No less than fourteen separate actions were brought against the Local Board of Health by parties suffering from the nuisance. Injunctions were obtained, and after having spent about 10,000*l.* in law, the Board felt that no choice was left but to find another outlet for what Mr. Bazalgette, who so largely deals in it, terms "the obnoxious fluid," or a means of purifying it. In their despair the Board resolved to try what could be done by employing it as a fertilizer, before allowing it to pass into the river. They obtained 300 acres of land at Beddington and found a tenant willing to rent it subject to the condition of receiving the town sewage and distributing the whole of it over the land. About a million gallons of sewage are received daily, stored in trenches, 50 feet apart, and thence gradually distributed over the intervening land. The earth purifies as well as filters. When the liquid leaves the meadows it is stated to have parted with its noxious equally with its fertilizing qualities, and to be a brighter and purer stream than the Wandle into which it flows. At any rate, no complaints are now made of it by those who complained loudly, and to good purpose, before. On the meadows themselves the effect has been extraordinary. About 240 acres are laid down in grass—principally the strong Italian rye-grass—and it yields four, and, in some places, it has yielded five crops in the year of 12, 10, 7, and 5 tons to the acre respectively. The mangel crops are also excellent. Before the application of the town sewage the land was worth 35*s.* an acre, but the Board had to pay 4*l.* for it. The present tenant has it on a short lease at 5*l.* an acre; and before the committee of the House of Commons it was stated that the Board of Health rather regret having made so improvident a bargain, as a much higher rental could now be easily obtained, and by the terms of the lease they cannot increase the quantity of land, as they would be glad to do. It was stated that the land with its sewage privileges would now let at from 15*l.* to 20*l.* an acre. At Carlisle a like result has been obtained.

If these things are so, it would seem that the great practical, that is, pecuniary, difficulty in the way of utilizing what has hitherto been a source of offence and contamination has been removed, and that the way is clear for the adoption of a measure rendering some such utilization of town sewage compulsory. It may however be plausibly objected that though after such utilization, the water which flows away is to the eye clear and limpid, it may yet, if the statements of scientific authorities are correct, be hardly less noxious than before, and the reform therefore will be seeming rather than real, if the waste water be allowed again to mingle with the natural streams. The committee of the House say emphatically that "no artificial method has been discovered to purify, for drinking and culinary purposes, water which has been once infected by town sewage. By no mechanical or chemical means can such water be more than partially cleansed; it is always liable to putrefy again. Processes of filtering and deodorization cannot, therefore, be relied upon to do

more than mitigate the evil. Water which appears perfectly pure to the eye, is sufficient, under certain circumstances, to breed serious epidemics in the population which drinks it." But though no artificial process can be relied on, the process of nature is entirely successful. "Soils, however," continue the committee, "and the roots of growing plants have a great and rapid power of abstracting impurities from sewage water, and rendering it again innocuous and free from contamination."

This most beneficent provision seems exactly adapted to our requirements. It will be indeed too bad if we refuse to avail ourselves of it. Some measure based on the report of the committee, will probably be brought before the legislature next session. If so, and it be a carefully considered measure, it is earnestly to be hoped that no obstructive tactics will prevent its becoming law, or so modify and fetter it as to mar its usefulness. The recommendation of the committee is "that the important object of completely freeing the entire basins of rivers from pollution should be rendered possible by general legislative enactment, enabling the inhabitants of such entire districts to adopt some controlling power for that purpose; but it should include a provision for compelling local boards to render the sewage of their districts innocuous by application to the land for agricultural purposes. The case of the valley of the Thames (where the purification of the river, which has been sought by the expenditure of enormous sums, is to a considerable extent counteracted by the increased discharge of sewage from towns higher up the stream) requires special and immediate attention."

Having last year given an account of the operations commenced under the Lancashire Public Works Act, then recently enacted, with a view to provide remunerative occupation for unemployed operatives in the cotton districts, we have only now to record its operation. That it has been of great use in alleviating the distress by means most acceptable to the sufferers, and at the same time has rendered permanent service to the towns which have adopted its provisions, seems now generally admitted. In some places the authorities have not taken to it with as much cordiality as was hoped, but on the whole matters have proceeded favourably. During the spring and summer there was a steady continuous decline in the number of unemployed operatives, and consequently of persons requiring relief; and it is easy to understand how in places that had been so severely tried, there might be a feeling against adding to the liabilities already incurred by borrowing money for town improvements, which the tax-payers might think could be very well deferred. But the recent increase in the number of unemployed labourers, and the probability of this increase continuing, seems to point to an increased activity on the public works. The Acts of 1863-4 empowered the Government to advance on loan, by instalments as required, the sum of 1,850,000*l*., upon application by the duly constituted local authorities, for the execution of works of public utility and sanitary improvement. Up to the date of the last return, October, 1864, the Loan Commissioners have advanced 661,160*l*., having nearly twelve hundred thousand pounds to be advanced, and nearly the whole of which has been applied for. In all

the Act is in operation in "some 80 towns, parishes, and districts." The works are of course of a very miscellaneous character, but in every case have to be approved and inspected by the Government Engineer. Preston has employed a large number of men during the year, and is now about to dedicate 100 acres of land to the formation of a new park. Ashton-under-Lyne and Staleybridge employed many hands on town work during the spring and early summer, and are now about to form waterworks. At Blackburn about 1,000 yards of the river bed have been cleansed, formed, and paved: at Bolton about 700 yards of the Coral have been similarly operated on. At Bacup, the river—long in a shocking state—has been cleansed and deepened for about a mile. But the bulk of the work hitherto has been in sewage and road improvements. "Generally," says Mr. Rawlinson, the Government Engineer, "the works are progressing satisfactorily, but the rate of progress rests entirely with the local authorities." At the end of September, nearly 5,000 men were engaged directly on the public works, not quite half of whom "came on the works from cotton manufacture." But Mr. Rawlinson intimates that "the public works at this time give relief by employment within the towns, or in the quarries and other works, to not less than 30,000 men, women, and children." And he further states that—"At the 80 places in which the Act is in force large numbers of men, in addition to those now at work, may at once be employed, and without any of the difficulties of a first commencement, as there are trained men in each case to incorporate new hands with. Plans are ready, and foremen on the several works. 13,000 men, whose families would include about 50,000 persons, may readily have employment upon the several public works in the distressed cotton district."

The operatives themselves take very willingly and successfully to this kind of work; and, as is shown by the deputations of the Blackburn operatives, would gladly see it greatly extended. It has surprised many to see how well they get on in a branch of labour so different to that to which they have been accustomed. Mr. Rawlinson in a previous report observes: "The men consist of overlookers, weavers, spinners, cardroom hands, warpers, piecers, twisters, sizers, dyers, and bleachers, fustian cutters, roller coverers, hatters, and various other branches of the peculiar occupations of the district. The weekly wages earnt by day's wages and by measured work vary from 12*s.* up to 20*s.* per man. The several works in progress are visited and inspected from time to time, and returns are obtained monthly from each place where the Act is in operation. The experiment of excavating works by distressed cotton operatives has now been tried on a large scale. Some of the works, town sewering and house draining, might have been considered beyond the scope of such labour, but the determination and intelligence of the men have overcome all difficulties."

The Cotton Famine, terrible calamity as it was in reality, and far more terrible as it appeared to be when it first revealed its fearful proportions, will indeed have brought with it many compensations. The heroic endurance of the sufferers, the open-handed self-denial

of a goodly proportion of employers, and the prompt, hearty and unbounded sympathy of all classes, could not but go a good way to ameliorate the distress and to knit sufferers and helpers together: the event has served to show capitalists and manufacturers the folly of relying too exclusively on a single branch of trade and a single source of supply; whilst the operations we have been describing have not only called out a large amount of latent energy in the men, but effected improvements, which are of the highest value to the health of the localities, but which might have been indefinitely postponed without some such stimulus. In a report printed some months back, Mr. Rawlinson states that 195 miles of sewage had been undertaken, and added, in reference to the character of the works generally, "If the population of Lancashire be placed in a sanitary state *only as favourable as that of the metropolis*, there will be an annual saving of some ten thousand lives, and an improved state of health throughout the entire population."

Returning to London improvements, we may first mention those in progress and undertaken by the City corporation. The works for the Metropolitan Meat and Poultry Market, which is to occupy the site of the old Smithfield Cattle Market, are being carried forward with great activity. The market, which will cover an immense area, is to be as complete as possible in all respects. The purchase of the site and the construction of the approaches are estimated to cost 420,000*l.*; the market itself about 200,000*l.* more. But with this great undertaking—the building of the new Blackfriars-bridge, which is to cost 350,000*l.*; the possible formation of the new street from Blackfriars to the Mansion House at a cost of 700,000*l.*; workmen's dwellings at a cost of 120,000*l.*; and many smaller matters, as the restoration of Guildhall, &c.; on hand—the corporation last session obtained an Act for the improvement of the roadways in Holborn Valley at an estimated outlay of 600,000*l.* The cost of this last improvement is to be defrayed out of the tax on coals, the proceeds of which, from 1872 to 1882, are by the Act appropriated to this special purpose. The works, however, will not be deferred till those years, but the necessary funds be raised on loan. The scheme of the Holborn Valley improvement comprises a high level street, to be carried on a viaduct, commencing at Ely-court, Holborn-hill, and extending to the Old Bailey, with streets branching from it at either end into Farringdon-road, the widening of Shoe-lane, and the altering of the level of the streets over which it passes. It is to be completed in 1869.

Having in the course of their various improvements destroyed a large number of poor houses, the corporation have felt it to be their duty to assist in providing suitable dwellings for some of the displaced inhabitants. They have accordingly set apart a piece of ground in the Farringdon-road, and voted 120,000*l.* for the erection of houses, expressly for the labouring classes. The buildings, erecting from the designs of Mr. Horace Jones, the new City architect, are to be somewhat similar to those erected by the trustees of the Peabody Fund, and provide accommodation in all for 160 families, 80 of them having three rooms, and 80 two rooms, with all suitable ap-

pliances. The basements and ground-floors will form warerooms and shops.

This excellent work of erecting Dwellings for the Labouring Classes goes on satisfactorily. The Peabody Buildings in Commercial-street, described in our last, have been opened and succeed very well. The trustees are building others similar in character, but on a much larger scale, in the Lower-road, Islington. The additional blocks erected by Miss Burdett Coutts, at Bethnal-green, have been for some time finished and filled. Miss Coutts has already spent 50,000*l.* here, and provided comfortable accommodation at a low rent for 189 families; and we understand she has directed another large block to be built just beyoud the former, but with an open space intervening. She is also building in the fields at the foot of Highgate Rise, and near her own residence, five or six detached blocks of model dwellings, intended for a different class of labourers. They are being constructed in a very superior manner, and with some architectual character. Alderman Waterlow has built another block of his improved dwellings in Finsbury; and the company which has been formed to erect dwellings on his model, has opened its campaign vigorously, having commenced the erection of similar blocks at Wapping, for 60 families; in the New Southwark-street, close by the railway bridge, for 16 families; in Old St. Pancras-road, for 100 families, and at King's-cross for 20 families. All of them will, we believe, have shops and stores in the ground floor and basement. Again, the Metropolitan Association, the first to begin the work, are erecting in Mile End New Town a block of dwellings for about 35 families; and they contemplate raising funds to build workmen's cottages near stations on the railways that come under the operation of Lord Derby's Clause, by which they will have to run morning and evening trains at a penny a journey. We might carry on the list much further, and mention the excellent labourers' cottages erected by Miss D. Browne, at Penge, and by other benevolent persons elsewhere; as well as chronicle the successful operation of several societies in the country which have for their object the providing of healthy dwellings at a low rent for the rural as well as town population: but enough has been said to show how much real progress is being made.

But workmen and day labourers are not the only people who suffer from city improvements and railway extension. Householders of a higher standing on the parish books have their houses demolished also; but their requirements are of a kind that are sure to be catered for. Houses of the villa and cottage class are rising with astounding rapidity on every side, and soon every green field that used to be suburban will have been built over. One of the largest projects for "supplying in part the destruction amongst the smaller houses in London," is that which is being carried out under the power of an Act entitled the Queen's-road, Battersea, Extension Act. The Queen's-road is to be a high road 60 feet wide from Clapham-common to the foot of the Battersea Suspension Bridge, thus opening up a much-needed direct communication between Hyde Park and the West End of London generally, and Clapham, Streatham, and other

wealthy adjacent villages. On either side of this main road, the open ground—the last relics of the once famous (or notorious) Battersea Fields—is in process of conversion into a series of streets, to be known as Park Town, Battersea, which will contain between two and three thousand houses, for the most part of a moderate size, and varying from 35*l.* to 65*l.* in rental. The main road itself will be lined with houses of a higher value, the scale ascending to Clapham-common, on the slope of which are houses already built of about 150*l.* rental, and on the common itself the Cedars, a stately terrace, the houses in which are let at 250*l.* per annum. At this end, and forming a sort of crowning feature of the design, is the new church of St. Saviour's, of which an engraving is given in the next section. The estate abuts on Battersea Park, and is to be laid out in an ornamental manner, the designs for the whole being by Mr. James Knowles, jun.

Among the Acts passed last year for public improvements connected with the metropolis, was one for a New Park on the site of the market gardens between the Lower-road, Rotherhithe, and the Greenwich Railway, and immediately west of the Grand Surrey Docks. It is to be laid out under the direction of the Metropolitan Board of Works by their architect, Mr. W. Vulliamy. The park will be so great a source of enjoyment and benefit to the inhabitants of the densely crowded and unhealthy districts of Rotherhithe and Bermondsey, that we may hope they will not have to wait as long for it as the people of Finsbury have had for their park. Finsbury Park is, however, it is said, to be at length proceeded with.

In the country, Aston Park, Birmingham, has been purchased by the Town Council for the sum of 26,000*l.*, and formally appropriated to the free use of the town; and a New Park, presented to the town of Bolton by T. Barnes, Esq., M.P. for Bolton, has been inaugurated with some *éclat* by Mr. Gladstone. It is situated at Farnworth, near Bolton; and though small, is said to be laid out to the best advantage, and very beautiful: its value is estimated at nearly 13,000*l.*

3. Churches and Chapels.

Through the length and breadth of the land—in every outlying rural village and placid cathedral city, as much as in the black and busy manufacturing town, and upstart, self-asserting, half-finished railway townlet—the church architect marches onwards with steady, unfaltering step, everywhere building and renovating ("restoring" is the word), making new churches to look as much like the old as he can, and old churches to look as much like new: with the necessary result that they seem neither the one nor the other, but all alike have a sort of spruced-up "second-hand" appearance. To the new churches as a class this gives an air of shabby gentility that is very much to be regretted, but is not altogether out of character; but as regards the old churches, it is sadly confusing. If this system of copying and scraping and transforming—perhaps it would be better to say this harmonizing process—goes on but a few years longer, as there is no reason to doubt but it will, the most acute antiquary will

be puzzled to tell the true age of a church. The modern churches will perhaps for some time proclaim distinctly enough their nonage, though most will probably become prematurely old, if not venerable. But of a church known to have been erected centuries ago and restored, how will he determine what part is authentic and what counterfeit? He may say this is thirteenth or fourteenth century style; but he would be a bold man who even now would venture to assert of many a restored church that has begun to be weather-worn, this is thirteenth or fourteenth century work. Poets, too, in the coming time will have to look elsewhere than to the churches for the crowning beauty of their pastorals, unless they coin a new vocabulary. It will never do to sing of grey old towers, and antique spires, when none such are to be seen; and "clean-scraped towers" and "bran-new spires" will hardly serve in their stead. For "walls mouldering into beauty," "moss-grown roofs," and "hoary stones with lichens stained," the painter will soon look long, and look in vain.

But, seriously, it must not be supposed this is exaggeration. It is stated on good authority that since the commencement of "the church restoration" movement, that is, within the last twenty years, at least fifty per cent. of our parish churches have been restored: and certainly there are some counties where that is below the actual proportion. And the process is going on with seemingly increasing vigour. Now, this restoring means commonly taking down, at least in part, and recasting according to the notions or crotchets of the restorer; rechiselling the sculpture, tracery and mouldings, or substituting new for it; removing all that is not of the original date of the church, and generally renovating the whole. We have for so many years been protesting, and to so little purpose, against this ruthless "restoring"—on the ground that an old church, and every part of a church, is a piece of historical evidence as to the state of the arts, in some cases as to the social, political, and even religious condition, of the time in which it was built or added to—that we cannot but rejoice to find our more distinguished church architects, themselves among the most active restorers, bearing their testimony to the vast amount of irremediable evil that has been done by "destructive restoration," and pleading earnestly for making church restoration, as far as practicable, strictly a preservative process. The pity is, the protest comes so late. But even their plea is only for the preservation of what is mediæval. Every vestige of Reformation and post-Reformation times is pitilessly condemned. It is idle to complain where we are helpless to hinder, else, perverse as the taste may be, one could wish to have preserved in the sanctuary common to us and them some familiar sign of those to whom we owe so large a measure of what we have and what we are.

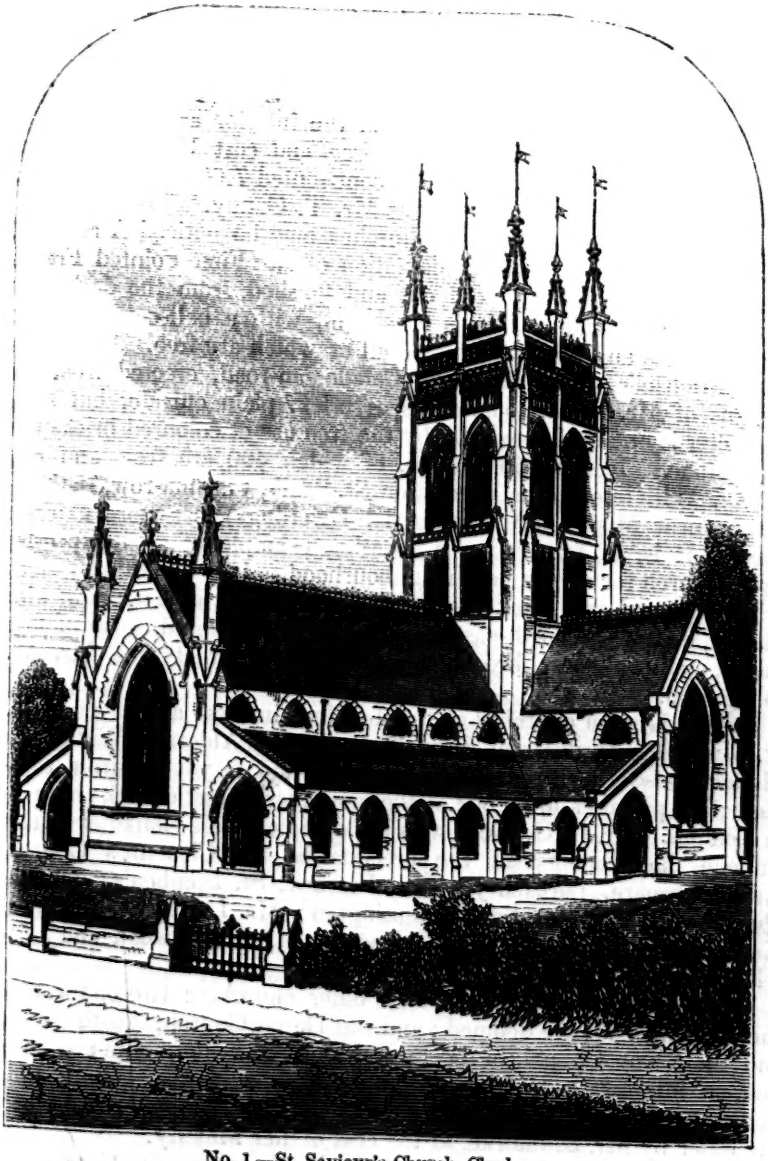
In our new churches there is discernible some reaction from the passion for elaborate irregularity and quaintness. The new churches are all Gothic, and mostly Gothic of an advanced type—foreign, or semi-foreign, symbolical, rigorously mediæval; but there is little that is positively grotesque, though the striving after a novel setting forth of an antique model occasions now and then a combination that is at least bizarre. But our newest churches are a decided improvement

on those of a few years back. There is more thought in the design; more care in the arrangement; a more finished execution. Looking at them from the ecclesiological, or architectural, point of view, many of our latest churches are, after their type, not only edifices of considerable beauty, but very well designed for their purpose—some of them leaning to ritualistic expression, others intended rather as auditories.

As an example of a suburban church, we give an engraving of St. Saviour's Church, Cedars-road, Clapham-common, mentioned in the last section. The church has been built by the Rev. Wentworth Bowyer, rector of Clapham, from the designs of Mr. James Knowles, jun., at a cost of about 10,000*l*. It is cruciform, 127 feet long and 49 wide, the transepts being 77 feet, and has, at the intersection of the nave and transepts, a large central tower 30 feet square and 120 feet high. It is built of Kentish rag, with Bath stone dressings; the internal piers being of Portland stone. The windows are filled with stained glass (except one or two as yet unfinished) by Messrs. Clayton and Bell, the subjects forming a connected series illustrating the life of our Lord on earth—a sort of illustrated gospel. Under the tower, and immediately in front of the altar rails, is an altar tomb, bearing on it a recumbent effigy of Mrs. Bowyer, co-foundress of the church, who died just before its completion. The style is Second Pointed; the general form and aspect simple, regular, stately, substantial; the mouldings, tracery, and carving good, without being obtrusive. Altogether it is a noble edifice, doing honour alike to the founder and the architect.

Very different in character is the church of St. George's, Campden-hill, Kensington, which has been built from the designs of Mr. E. Bassett Keeling, at a cost of 7,500*l*., defrayed by Mr. J. Bennett. In this there is an evident straining after originality that produces a fretful effect rather than the calm grandeur we look for in a church. Yet the building has many admirable points, and as a whole is certainly picturesque. Like St. Saviour's, it is cruciform, but has the tower, crowned with a lofty spire, at the south-east angle, and an apsidal chancel. In style it approximates to early Second Pointed, but is of decidedly French character. The front is of Bargate stone, with Kentish rag arches, picked out with red Mansfield and Corsham Down stone. The back is of brick. The tower has a good deal of ornament in bands, mouldings, and dressings, and the staircase is marked by stepped lancet windows. The entrance is by a continuous porch or galilee at the west. The interior is lofty, lined with yellow bricks, relieved with red, blue, and black bricks, and shafts of red Mansfield stone. It is lighted by a clerestory supported on iron columns painted in strong colours. A gallery is carried round three sides. The roof is of very high pitch, and decorated in polychromy. Behind the altar is a tall reredos. It has 1,450 sittings.

More in accordance with prevalent ecclesiological teaching is St. Peter's, Vauxhall, on the site of the once famous Vauxhall Gardens. In this the architect, Mr. J. L. Pearson, has sought to show the value of brick for ecclesiastical purposes—not only the walls, but the groined roof being of that material combined with stone. The style



No. 1.—St. Saviour's Church, Clapham.

is First Pointed, of French type. The church consists of nave, aisles, a demi-transept on the north, apsidal chancel with sedilia, baptistry, and narthex or galilee at the west end. The pulpit is of stone richly carved; and it is proposed to introduce a good deal of fresco painting, but at present only one picture—of the extremest mediæval orthodoxy—has been set up in a panel of the clerestory wall. The windows are being filled with painted glass. All the seats are free, and it accommodates 900 worshippers: the cost was 7,800*l.*

St. Saviour's, Pimlico, consists of a nave, aisles and chancel, with a tower and spire 190 feet high. In the interior are galleries. It has 1,140 sittings, of which 360 are free, and cost 12,000*l.*, towards which the Marquis of Westminster contributed 7,000*l.* It is Second Pointed in style: the architect was Mr. T. Cundy.

Among less costly London churches may be noticed All Saints', Highgate, a rather pleasing adaptation of late First Pointed French Gothic, very carefully worked out and finished, from the designs of Mr. A. W. Blomfield. It is cruciform, with a bell-cote over the chancel arch, and has 340 sittings, all of which are free.

St. Michael's, Bingfield-street, Caledonian-road, erected from the designs of Mr. R. L. Roumieu, is of brick, plain outside, but some character is obtained internally by the free use of coloured bricks and some stone. It has 750 sittings, of which 400 are free, and cost 3,000*l.* With less internal decoration, St. Paul's, Virginia-row, Bethnal-green (near Miss Coutts's Industrial Dwellings), has more external effect. It is, in fact, rather a pleasing example of an inexpensive street church for a very poor neighbourhood. It is of ordinary stock brick, with red and black bands; has a four-light east window with tracery, and at the north-east angle a square chamfered tower of four stages, with a short brooch spire. The architect was Mr. W. Wigginton.

Several London churches of more or less interest are in progress. St. Michael's, Mark-street, Shoreditch, opposite Alderman Waterlow's Model Houses, has been longest on hand, and is yet far from complete; but promises to be one of the most characteristic brick churches in London. Mr. G. G. Scott, who has completed his chapel at King's College, has commenced the erection of St. Clement's Church, Arundel-square, Barnsbury; Mr. Peacock, St. Stephen's, opposite Queen's Gate-gardens, South Kensington; Mr. Lamb, St. Martin's, Kentish-town; and others are begun at St. John's-wood and elsewhere.

But London is losing some of its older churches: two or three of the city churches are doomed; and the Dutch Church, Austin-friars, and the Savoy Chapel, in the Strand, both of historic note and antiquarian interest, have been all but destroyed by fire. Both will, however, be restored: the former under the direction of Mr. I'Anson; the latter by Mr. S. Smirke, at the cost of her Majesty.

The very interesting church of St. Bartholomew the Great, the oldest church in the City, is also about to be carefully restored under the direction of Messrs. Slater and H. Lewis, at a cost of some 4,000*l.* Another old City church, of peculiar interest, as that in which Milton was buried alongside his father, has been partially re-

stored, leaving, however, more to be done before the purpose of the restoration committee is fulfilled, and "the sanctuary entombing the remains of Milton perfectly restored in all the integrity of existing details as an appropriate national tribute to his exalted genius." We may add here, whilst speaking of London church restoration, that the works at the Temple Church, under Mr. Smirke and Mr. St. Aubyn, are completed, and very satisfactorily. The crypt of St. Stephen's, the crypt of the famous chapel of the ancient Palace of Westminster (afterwards the place of assembly of the House of Commons), the only portion spared by the Great Fire, has been restored and fitted up as a private chapel for the residents in the New Palace of Westminster. It extends under St. Stephen's Hall; the long stately corridor, lined with statues of our principal statesmen, which serves as the grand entrance to the Houses of Parliament. Under Mr. E. M. Barry's direction, the crypt has been reinstated in more than primal splendour, and is now as refulgent as marble, gold, and gorgeous colour can make it.

Of the new churches in the environs, two or three may be specified. St. Nicholas, Sutton, Surrey, occupies the place of a smaller and very uninteresting church. It consists of a nave, aisles and chancel, with a buttressed tower, crowned with a tall shingled spire, at the west end, and a porch at the south-west angle. It is late First Pointed in style; is built of flint and stone, with tiled roofs of very high pitch; and has some good carving. It has 700 sittings, and cost 6,000*l.*: the architect was Mr. Edwin Nash. Sutton has so largely increased of late, and is so rapidly increasing, that the new church already affords insufficient accommodation. Another church, of more advanced Gothic (Mr. S. S. Teulon, architect), has therefore been begun at Been Hill, about half a mile north-east from the parish church, where a collection of villas is growing up under the name of Benhilton.

At Cheam, Surrey, a new church has been erected alongside the old one, of which however only the chancel will eventually be retained for the sake of the Lumley and other monuments which it contains. The new church is First Pointed in style, with a circular window at the west end over four lancets; and a tower at the north-west angle. Externally it is of hammered stone with Bath stone dressing; but the inside is lined with red brick. The contrast on entering is by no means pleasing, but the interior is effective; wide, lofty and cheerful; with a high chancel and apsidal termination. The clerestory arches are borne on shafts of Purbeck marble. The architect was Mr. Pownall.

Holy Trinity, Lee, Kent, is cruciform, First Pointed in style, with an external staircase turret (for the west gallery) crowned with an open-work oak bell-turret and shingled spire. It is of Kentish rag, with Bath stone dressings, and accommodates 750 persons. There is some novelty of effect about it, but as a whole it is heavy. The architect was Mr. W. S. Barber. The site, church, and parsonage are the gift of Mr. L. Glenton.

Among country churches, several of considerable interest, either on their own account or from circumstances connected with them, have been completed since our last report. St. Luke's, Shireoaks, Worksop, was erected at the cost of the late lamented Duke of Newcastle, and

the first stone of it laid by the Prince of Wales. The church is cruciform, with a tower, in which is a peal of five bells, rising from the intersection. The transepts are short, one containing the organ, the other serving as a vestry. The nave is lighted by a clerestory, and has a panelled timber roof. The church, early Second Pointed in style, is built of Steetly stone, from the designs of Messrs. Hine and Evans, of Nottingham.

At North Shields three new churches with their parsonages, large schools, &c., have been built at the expense of the Duke of Northumberland. St. Peter's, opposite the Sailors' Home, in Low Street, is a Sailors' church, with 800 sittings, all being free; St John's, Percy Main, has 600 sittings; St. Paul's, Whitley, with 400 sittings, is intended for the fishermen of Cullercoats, who have shown their appreciation of the noble offering by subscribing among themselves funds for erecting a stained glass window in the chancel. All these churches are First Pointed in style, and from the designs of Mr. Salvin. They are substantial and handsome buildings, not devoid of ornament, though the ornament is subsidiary. They form but a small portion of the princely improvements which the Duke has for some years been carrying out in North Shields.

The old parish church of Sherbourne, Warwickshire, has been pulled down, and a new one erected at the expense of Miss Ryland, of Barford Hall. The new church is small, being only adapted for 200 worshippers; but its cost will, it is said, reach 15,000*l*. The architect is Mr. G. G. Scott, R.A. It has nave, aisles and clerestory, chancel, and open-timbered roofs. The shafts to the clerestory windows, the chancel arch, &c., are of Ipplepen marble and verd-antique. The capitals are richly carved with natural foliage; the windows are to be of stained glass; and the tower is to have a peal of six bells.

Mr. Scott has also completed an elegant little church at Old Rode, Staffordshire, in his favourite manner—early Second Pointed, French in motive, and refined in finish. Rode church has 500 sittings, and has cost 6,000*l*. All Saints, Langton, near Speldhurst, Kent, also by Mr. Scott, is still smaller, having at present only 160 sittings; but is so constructed as to allow of north and south aisles being added. When the design is fully carried out, it will be a handsome little cruciform edifice. Mr. Scott's new Chapel of St. John's College, Cambridge, would probably have been nearly completed, but for a modification of the design rendered necessary by the liberal offer of Mr. H. Hoare to defray the cost (nearly 6,000*l*.) of a stone tower, 160 feet high, as originally suggested by Mr. Scott, but for which, from the available funds being insufficient, it had been found necessary to substitute a wooden *flèche*. When completed it promises to be the finest of all Mr. Scott's collegiate chapels.

All Saints, Horton Green, Bradford, is one of ten churches which it was some time since decided to add to those already existing in that populous town. All Saints has been built by F. S. Powell, Esq., M.P., at a cost of about 15,000*l*. It is cruciform, with a tower and spire 200 feet high, and an apsidal chancel. It has 900 sittings; is early Second Pointed in style; and is constructed mainly of Calverley Wood stone, from the designs of Messrs. Mallison and Healey.

St. Paul's, Wokingham, is a noticeable building, erected at the expense of John Walter, Esq., M.P., from the designs of Mr. H. Woodyer. The church consists of a nave and aisles, with a clerestory of superior design, and an open-timbered roof; a chancel with aisles, one containing the organ, the other forming the founder's private chapel; and a tower and spire, 170 feet high, at the north-west angle. The walls are of Bristol blue stone, with Bath stone dressings; the spire is wholly of Bath stone. The interior is very rich in carving and decorations; the lower part of the chancel is lined with alabaster, and has a high reredos. The windows are all of painted glass, by Hardman: the east window containing a representation of the Transfiguration; the west, the Conversion of St. Paul; those of the aisles subjects from the life of St. Paul. The church stands on a conspicuous site, and is a great ornament to the neighbourhood.

Mr. Woodyer's reputation is justly high in that part of the country. Several of the most successful new churches and church restorations have been executed by him. One of the most elegant, and, in its special class, one of the happiest of the new village churches we have seen, is that of Hascombe, Surrey, which Mr. Woodyer erected for J. Godman, Esq., who defrayed the cost. It is First Pointed in style, small in size, having only 120 sittings, but consists of a nave and aisle, demi-transepts, one of which holds the organ, while the other serves as the chapel pew of the founder, an apsidal chancel, and an oak shingled spire. The chancel is shut off from the nave, and the squire's pew from the south aisle, by carved oak screens. The chancel is dimly lighted by seven narrow lancets filled with stained glass, by Hardman. Beneath them are small half-length figures of the Seven Angels of the Churches, each holding a stone candlestick. The chancel floor is paved with encaustic tiles of a good pattern. Behind the altar is an arcaded reredos of alabaster, with shafts of polished red granite: on the sides are sedilia and a credence table. The pulpit of Caen stone has a beautiful carved statuette of St. Peter, by Nicholls. As will be seen, the little church is ecclesiological in the extreme; and this is carried so far that a hagioscope has been made through the transept pier, giving the chapel pew a view of the altar. This may or may not be the right model of a village church, but of its kind it is most admirable, chaste, simple, grave in general effect, though rich in detail, and exquisitely finished. At Graffham, about two miles north of Hascombe, Mr. Woodyer has built at his own cost, and close to his own grounds, a little First Pointed church, smaller than that at Hascombe, but even richer in the ornamental details.

Of the remaining churches we give a list, arranging them, as in previous years, under First Pointed (or Early English), and Second Pointed (or Decorated). It may be necessary, however, to repeat that though thus designated, many of them, owing to their strongly marked foreign features, are very unlike the English families whose names they bear. When not otherwise stated, they may be understood to consist of a nave and aisles, chancel, vestry, &c. Sacrarium, baptistry, and narthex or galilee, are also very commonly found in descriptions of new churches, though the visitor often overlooks them in the

reality. When there is anything special in these features they will be mentioned.

Among the churches First Pointed in style are—Christ Church, *Ottershaw;* of brick with stone facings; a nave of four bays, an apsidal chancel, and a spire, 60 feet high; 200 sittings; cost 4,000*l.*, defrayed, and the living endowed, by Sir Edward Colebrooke; architect, Mr. G. G. Scott; *Sevenhampton*, near Highworth, Wilts, erected as a memorial of Lady Wetherell Warneford, [at a cost of about 3,500*l.*, defrayed by Mr. J. Sewell, of Cirencester; has a tower at the west end, with a peal of six bells; is paved with encaustic tiles, and has a richly carved pulpit and font: architect, Mr. W. Pedley, of Highworth. All Saints, Devonshire-square, *Reading*; has transepts, but at present only one bay of the nave; of Pennant stone with Bath stone dressings: architect, Mr. J. St. Aubyn. St. Bartholomew's, *Waldron*, Sussex; built by J. G. Boucher, Esq.; 200 sittings; architect, Mr. St. Aubyn. St. Catherine, *Edge Hill*, Liverpool; brick and Stourton stone; cost 3,000*l.*; 890 sittings, gallery free: architect, Mr. J. D. Gee. St. Ann's, *Brindle Heath*, Manchester; of red brick with dark-blue brick in bands and patterns; 300 sittings, all free: architect, Mr. J. M. Taylor, of Manchester. St. Michael's, *Hulme;* double chancel; octagonal baptistry, and north porch; of brick; cost 4,500*l.*: architect, Mr. J. M. Taylor. St. James's, *Warter*, near Pocklington, Yorkshire; apsidal chancel, tower and spire, 120 feet high; cost 4,000*l.*, defrayed by the late Lord Muncaster: architects, Messrs. Habershon and Pite. *Carlton-le-Snaith*, Yorkshire; parish church, rebuilt by Lady Beaumont, at a cost of 4,000*l.*: architect, Mr. Atkinson, of York. St. Peter's, *Folkestone;* cruciform; 271 sittings, all free: architect, Mr. R. C. Hussey. *Capel Nantddu*; 77 sittings, all free; cost 400*l.*; architect, Mr. C. Buckeridge. St. Tyfaelog, *Gellingaer;* 349 sittings, all free; cost 2,252*l.*: architect, Mr. C. Buckeridge. St. Mary's, *Rainton*, Durham; 500 sittings; cost 2,300*l.*; architect, Mr. E. R. Robson, of Durham. St. Cuthbert's, *Durham;* 410 sittings, all free; cost 3,000*l.*; architect, Mr. E. R. Robson. St. Michael's, *Frampton*, near Louth; octangular apse; fittings of oak; architect, Mr. Fowler, of Louth. St. Mary the Virgin, *Frome*; semi-octagonal chancel; rich carvings and other decorations inside; seats all free; architect, Mr. Giles. *East Kennet*, Wilts; on site of the old church; architects, Messrs. Gane, of Trowbridge. St. Mary's, *Ercal Magna*, near Wellington, Shropshire; 110 sittings, all free; architect, Mr. J. L. Randal. Trinity Church, *Birchfields*, near Handsworth; of local stone, with Bath stone dressings; 612 sittings, 306 free; cost 4,500*l.*; architect, Mr. Chatwin. *Great Hautbois*, Norfolk; erected on site of old church; 300 sittings; cost 850*l.*; architect, Mr. Jeckyll. St. Luke's, *Nottingham;* 700 sittings, 455 free; architect, Mr. R. Jalland. *Emery Down*, New Forest; 170 sittings; built at a cost of 1,300*l.*, and endowed by Admiral Boultbee; of forest bricks, with Bath stone dressings; architect, Mr. Butterfield. St. Barnabas, *Penboyr*; apsidal chancel; 250 sittings; architect, Mr. D. Brandon. *Whelford*, near Kempsford, Gloucestershire; apsidal chancel, polychrome decoration in the interior; architect, Mr. G. E. Street. Holy Trinity, Cliftonville, *Brighton;*

of brick, with Bath stone dressings, but of little architectural pretension; 650 sittings; architect, Mr. Woodman, of Brighton. *Staveley*, Yorkshire; at west end a tower (open to nave) and spire; open timber roof of high pitch; oak seats; 230 sittings; cost 2,000*l.*; architect, Mr. J. Lowe, of Manchester. Christ Church, *Bwlch-y-Cibau*; apsidal chancel; 172 seats, all free; cost 1,599*l.*; architect, Mr. G. G. Scott, R.A. St. James's, *Llawr-y-Bettws*; 200 sittings, all free; cost 1,800*l.*; architect, Mr. G. G. Scott. *Waterloo*, near Blyth, Northumberland; 300 sittings, all free; cost 1,600*l.*; architects, Messrs. Burn and Whyte. St. John the Baptist, *Shuckburgh*, Warwickshire; on site of old church, but enlarged; some Byzantine features, especially in the interior; architect, Mr. Crofts, St. John the Evangelist, *Greenstead*, Essex, brick, with stone dressings; 223 sittings, all free; cost 2,000*l.*; architect, Mr. A. W. Blomfield. St. Thomas, *Woolhouse*; cruciform; 383 sittings, 221 free; cost 2,500*l.*; architect, Mr. W. H. Crossland. St. Michael and All Angels, *Newchurch*, Isle of Wight; cruciform; 350 sittings, 300 free; cost 2,100*l.*; architect, Mr. E. T. Jones. St. Mary, *Hunslet*, Yorkshire; on site of old church, but much enlarged; cruciform, with tower and spire at the north-west angle, 156 feet high; east window of five, and west window of six lights, filled with painted glass; open-timber roof, and floor of encaustic tiles; 856 sittings, 528 free; cost 8,000*l.*, defrayed by Mr. Ingham, of Palermo, and his two sisters; architects, Messrs. Perkin and Backhouse, of Leeds. All Saints, *Ascot*; 246 sittings, 181 free; cost 2,200*l.*, towards which the Queen contributed 100*l.*, and the Board of Works and Forests 400*l.*; architect, Mr. T. H. Rushforth. *Canonley-in-Craven*, Yorkshire; 220 sittings, all free; architect, Mr. F. H. Pownall. St. John, *Over Darwen*; built by Mrs. Graham, of Turncroft, at a cost of 8,000*l.*; 750 sittings; of local stone; cruciform, with tower and spire at the west end, and an octangular chancel; architect, Mr. E. G. Paley, of Lancaster. Christ Church, *Higher Walton*, Lancashire; 600 sittings; cost 4,000*l.*; architect, Mr. E. G. Paley. St. Saviour's, *Aughton*, Lancashire; architect, Mr. E. G. Paley. *Darowen*, near Machynlleth; 200 sittings; cost 600*l.*; architects, Messrs. Poundley and Walker. *Blyth*, near Newcastle; 90 feet by 25 feet; architects, Messrs. Austin and Johnson, of Newcastle. *Hollingworth*, Cheshire; 450 sittings, cost 1,700*l.*; architects, Messrs. Clegg and Knowles. Christ Church, *Worcester*; of Bargate stone, with Bath stone dressings; 300 sittings; cost 1,500*l.*; architect, Mr. Howell.

Churches Second Pointed in style have been erected, among other places, at St. John the Evangelist, Ipswich-road, *Colchester*; of red brick with yellow bands, with windows, &c., of Ancaster stone; the approach is through a baptistry which communicates with the body of the church by an arch borne on slate shafts; sacrarium and memorial chancel; architect, Mr. A. W. Blomfield. St. Mark's, *Woolston*; nave, north aisle, transept and chancel; 300 sittings; architect, Mr. White. *Findern*, Derbyshire; on site of the old church which had become dilapidated; nave 38 feet long, chancel 24 feet; cost 1,450*l.*; architects, Messrs. Stevens and Robinson. St. John the Evangelist, *Masborough*; 800 sittings, all free; cost, without tower

and spire, 8,000*l.*; architect, Mr. W. White. St. Mary, *Aston Brook*, near Birmingham; a memorial church for Mr. J. Robins, of Allesley; of red brick, with Bath stone bands and dressings; architect, Mr. J. Murray. All Saints, *Cold Handworth*, Lincolnshire; a pretty little church, for 80 people; of local stone, with Ancaster stone dressings; cost 2,000*l.*; defrayed by Captain P. Cracroft; architect, Mr. J. Croft. St. Mary Magdalene, *Harewood*, Yorks.; 140 sittings, of which 120 are free. Holy Trinity, *Hepworth*, Yorks.; cruciform, with tower and spire; 435 sittings, 288 free; cost 2,200*l.* St. Michael's, *Catwick*, Yorks.; cruciform, on the foundations of the old church, the tower of which is retained. These three churches are by Messrs. Mallison and Healey, of Bradford. Holy Trinity, *Knaresborough*; 800 sittings; cost 3,800*l.*; architect, Mr. J. Fawcett. St. Michael, *Sutton-on-the-Hill*, Derbyshire; on site of the old church, the chancel of which is retained; interior rather richly decorated; architects, Messrs. Giles and Brookhouse, of Derby. Holy Trinity, *Bray*, Berks; 180 sittings; architect, Mr. Turner. *Llandwrog*, near Carnarvon; rebuilt by Lord Newborough, at a cost of 7,000*l.*; cruciform, with a tower and spire, 110 feet high; of Anglesey limestone, lined with Bath stone; architects, Messrs. Kennedy and Rogers. St. David's, *Erryrys*; 200 sittings, all free; architect, Mr. T. H. Wyatt. Albert Memorial Church, *Collyhurst*; of yellow brick, with blue and white brick bands, and Hollington stone dressings; nave 90 feet by 46 feet, with roof of a single span, 48 feet high to the ridge; chancel 20 feet by 21 feet; tower and spire at north-west, 130 feet high; windows of painted glass in memory of the late Prince; 665 sittings, 231 being free; cost about 4,500*l.*; architect, Mr. J. Lowe, of Manchester. *Newnham*, Forest of Dean; of local stone, with Bath stone dressings; 400 sittings. *North Pickenham*, Norfolk; on site of old church; architect, Mr. D. Male. *Hardington*, Somerset; on site of an old church of Third Pointed date, the tower being retained as a part of the new building; 200 sittings; cost little over 1,000*l.*, the old materials being as far as possible made use of; architect, Mr. Pearse, of Haslebury. *Little Compton*, Warwickshire; on the site of the old church, but somewhat larger; cost 1,000*l.*, the old materials being worked up; architect, Mr. Bruton, of Oxford. St. Mary's, *Bromley*; to be cruciform, but only nave erected; 501 sittings, 368 free; cost 2,600*l.*; architects, Messrs. Waring and Blake. St. John, *Bootle*, Lancashire; cruciform; at the intersection a tower of three stages with pinnacles and pierced parapet; architect, Mr. W. H. Weightman, of Liverpool. St. Stephen, Rashcliffe, *Huddersfield*; cruciform, with tower and spire at south-west angle; 600 sittings; cost 2,300*l.*; architects, Messrs. Blackmoor and Withers. St. Peter's, *Arthington*, Yorkshire; architects, Messrs. Mallinson and Healey. *Llanwarne*, Herefordshire; cruciform; of local stone, with Bath stone dressings, and window tracery of Painswick stone; cost 2,350*l.*; architects, Messrs. Elmslie. St. Paul's, *Birkenhead*, known as the Working Men's Church, is a rather striking and boldly decorated church, designed by Mr. Walter Scott, of Liverpool; it has 850 sittings, all on the ground floor being free.

Churches in the Third Pointed or Perpendicular style are now scarcely ever built. Mr. T. H. Wyatt, however, remains faithful to

that type, though using it with some freedom. A fine church has been completed by him, chiefly in this style, at *Little Langford*, Wilts, on the site of the old parish church. It is of flint, with stone dressings, and has some good carving and internal decoration. The east window is a memorial for Lord Herbert of Lea, placed there by his widow. Three other painted windows were presented by Lady Herbert of Lea; the west window was the gift of Mr. Wyatt. We may take this opportunity of correcting an inaccurate description given last year of another church by Mr. Wyatt, and which, by the accidental addition of a cipher, was made to appear a very costly structure. The church of *Langton*, near Bradford, Dorsetshire, is cruciform; of flint, with stone bands; and cost about 3,000*l*., which, as we are informed, was defrayed by Mr. Farquharson. The only other church we have to mention of the Third Pointed style is that of *Fontmel*, Dorsetshire, built, like the preceding, on the site of an old church of the same character. It is described as a substantial, richly ornamented and handsome structure, and was erected at the expense of Sir R. P. Glyn, Bart., from the designs of Mr. Evans.

At *Rigsby*, near Alford, Lincolnshire, was an interesting little church of early Norman date; but having become too dilapidated for repair, it has been pulled down, and one similar in style erected on the site, under the direction of Mr. Fowler, of Louth. It is of Ancaster stone, faced on the exterior with white brick, picked out with red; and has 120 sittings. Holy Trinity, *Hertford*, is another small church, early Norman in style. It consists of a nave and apsidal chancel; has 300 sittings, of which 200 are free; and cost 1,400*l*. The architect was Mr. Evan Christian.

Church restoration has so outgrown our limits, that, having adverted to the subject generally at the beginning of this section, it must suffice to make a passing note on some of the more important works just completed, in progress, or proposed. Chichester tower, under the competent direction of Mr. Scott, is making steady and satisfactory progress. The walls of the tower are now 125 feet from the ground, and have nearly reached the point whence the spire will spring. The tower is strictly a copy in all its details, as the spire will also be, of the old structure, but constructed more substantially. But it is to be regretted that from insufficiency of funds the erection of the spire must for the present be deferred. As yet the tower is unconnected with the body of the church; but it is desirable that the connection should be made without delay, in order that the regular service of the cathedral may be resumed. It is hoped that the construction of the spire may be commenced at a very early day. Mr. Scott having been directed to make a careful survey of the spire of Salisbury cathedral, has reported that it is in so unsafe a condition that it may any day share the fate of Chichester, whilst the church is itself throughout in a bad state of repair. He has pointed out the steps that should be immediately taken to insure its safety, and an effort is making to obtain the necessary funds. Some 50,000*l*. will be required, and probably half that sum has been provided. Worcester cathedral also stands in need of extensive repairs, for which, according to Mr. Scott's estimate, about 14,000*l*. will be required, but this includes a good deal

of decorative work. Mr. Scott has also, after a detailed survey, reported that the tower of St. David's cathedral is unsafe. Other repairs are necessary which will swell the cost to about 14,000*l*. The repair of the tower is however to be the first operation. At Manchester cathedral many extensive works have been for some time in progress. The Ely chapel has been restored; the Derby chapel is in course of restoration: these, with various necessary repairs and decorations, will cost upwards of 20,000*l*. The rebuilding of the tower has been commenced, and will cost about 12,000*l*. more.

In the "Companion for 1862" we wrote, after some remarks on the irreparable mischief caused by "destructive restoration"—"A month or two back we were horrified on visiting Lincoln cathedral—in some respects the noblest of our mediæval remains—to see that its exterior is actually under a course of scraping." Despite all protests—and many have been made by antiquarian societies as well by eminent architects and archæologists—the cathedral authorities have doggedly persevered in their evil course. Only in August last letters appeared in the *Times*, bearing well-known names, in one of which it was stated that "the weather-worn masonry of the thirteenth century works has been cut down to a clean surface, and the Norman work is being sacrificed in a similar manner. By this process the original size and proportion of many of the details have been lost." Whilst another writer stated from his own knowledge that, "at Lincoln, if a carved stone has suffered at all from age, it is actually chipped away bit-by-bit, or, if it be large, it is taken out and thrown away. I know," he added, "several persons who have considerable collections of fragments which they have been allowed to carry off from the cathedral—one king, for example, in fair preservation, stands in a friend's garden!" Now, to perceive the full atrocity of this procedure, it must be borne in mind that the sculpture of the west fronts of Wells and Lincoln cathedrals are the finest examples of the purest period of mediæval sculpture in England, and among the very finest examples in Europe. They are, in fact, the standard illustrations of every writer on the subject. As an illustration of the artistic skill of the period, the west front of Lincoln cathedral is now of about the same value as, for historical purposes, would be a document that had been studiously defaced, or ignorantly copied by some one who thought it would look prettier if re-written on new parchment, and the illuminations copied and improved by a modern hand.

It only remains under this head to allude to a few of the restorations of parish churches that have a special interest. That of the famous Church of the Holy Cross, best known as the Abbey Church, Pershore, has been carried out by Mr. Scott, with great care, and, it is said, with perfect success. The church is of a noble character and full of interest, —one of those that once seen dwell in the memory—and we may rejoice that if restoration were necessary, it was placed in the hands of a conservative restorer. Its sister church, Tewkesbury, is about to be thoroughly restored by the same architect, who has also completed the restoration of the old Abbey Church of Dorchester, and is superintending the restoration of the well-known Great St. Mary's Church, Cambridge. The ruins of the old Grey Friars Church, Reading, have

been partly restored, partly rebuilt, under the direction of Mr. Woodman, and the church is once more employed for divine service. The chancel of St. Cross by Winchester is being restored under the direction of Mr. Butterfield. The chapel of Worcester College, Oxford, has been transformed by Mr. Burges. Mr. S. S. Teulon has undertaken the restoration of Horsham, one of the finest and most interesting of the parish churches of Sussex; the old work is to be preserved.

The Roman Catholics are strenuously occupied in building new churches; but, as is not unusual with them, many of the churches opened are far from being completed. Among those of the past year, the first place, perhaps, must be assigned to the church of St. Wilfred, York, a picturesque and imposing structure, occupying a conspicuous position not far from the minster. The church is 111 feet long, 59 wide and 62 high, and consists of a nave and aisles, apsidal chancel, Lady chapel, sacristy and chapter-room, with a tower and roof spire 147 feet high, the ground floor serving as a baptistry. In style it is Italianized Gothic. It is built of Bradford stone with Whitby stone dressings, a good deal of coloured stone being interspersed. The interior is faced with brick. The west front, 80 feet to the apex of the gable, has an extremely rich doorway, divided by a central shaft, over which is an elaborate niche and statue, whilst groups of sculpture fill the rest of the tympanum. A corresponding but larger niche and statue is placed between the windows above the doorway. The interior is also very rich in carving, the whole of which is by Mr. Earp; the windows are filled in with painted glass by Mr. Wailes, of Newcastle. The architect was Mr. Goldie, of Gloucester; the cost about 10,000*l*.

At *Northampton* a so-called cathedral has been opened. It is 140 feet long, but affords accommodation for only 600 worshippers. It is early Second Pointed in style; has a richly carved reredos; sculptured groups and single figures; and several stained glass windows. The architect was Mr. E. W. Pugin. At Stretford, *Manchester*, a rather costly church has been erected by Mr. Pugin, at the expense of Sir Humphrey de Trafford. The front towards the main road has a tall gable in which is a large and handsome wheel window, and on the right a nearly detached tower and spire, 130 feet high. The interior is remarkable for the extremely elaborate and beautiful carving (by Mr. Bolton, of Worcester) of the altar and reredos. The stained glass and metal work are by Hardman. St. John's, *Bath*, described in 1863, has been at length opened, but only 60 feet of the tower is built; the spire is intended to be 200 feet high; the interior contains a great deal of good carving by Earp; and there are some painted windows by Hardman. The architect was Mr. C. F. Hansom. At *Leamington*, a chapel has been opened; of brick, comparatively plain outside, but inside elaborately adorned with sculpture, decorative carvings, paintings, marble shafts and inlaid work, stained glass windows, &c. The architect was Mr. T. Clutton; the cost was about 8,000*l*. Some day the tower is to be carried up to a height of 200 feet. Churches and chapels have also been opened: among other places at *Sheerness*, for soldiers, from funds left for the purpose by a

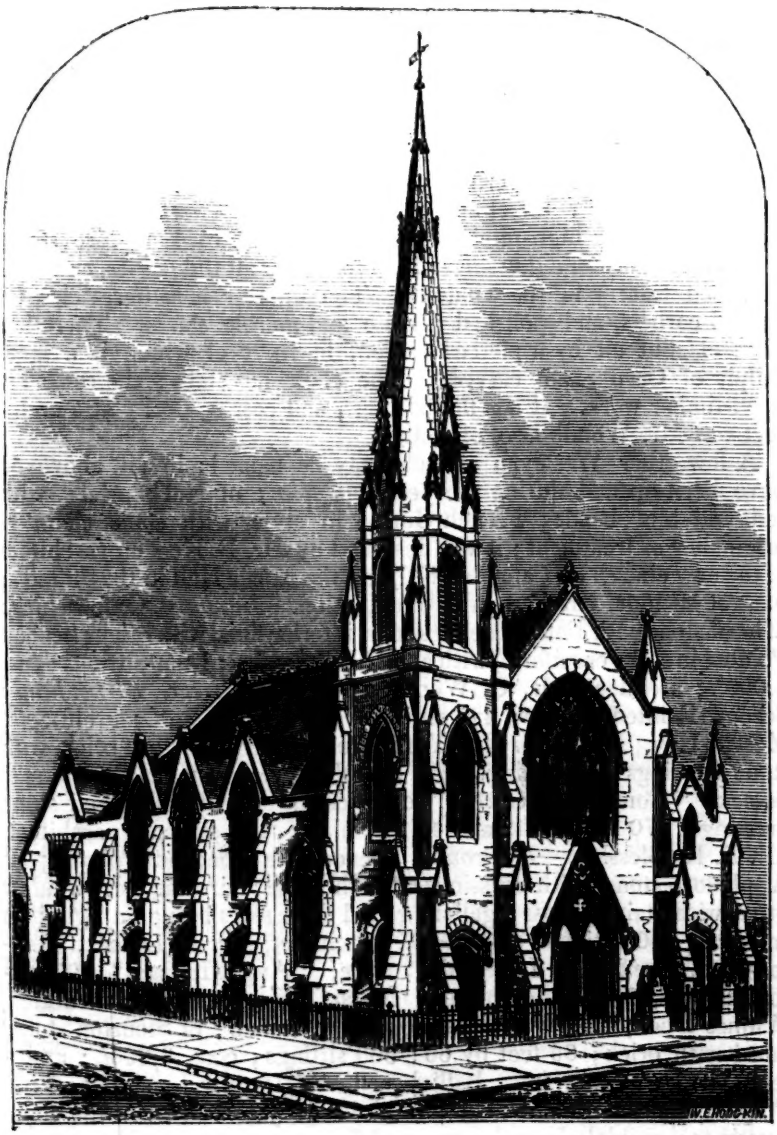
deceased military officer; it is Second Pointed; has 500 sittings, and was designed by Mr. Pugin. *Stourbridge*, in the same style and by the same architect; of red brick, with Bath stone dressings; 120 feet long, 52 wide, and 57 high, with a tower at the north-west angle. *Formby*, Liverpool; Romanesque in style, Mr. Clutton, architect; of brick, with Stourton stone dressings; 115 feet long, 48 wide; 600 sittings; cost 3,000*l*. *Stamford*; late First Pointed French Gothic; Mr. G. Goldie, architect; 80 feet by 26; of local limestone, with dressings of Casterton stone: an arcaded front; tower unfinished. Others of lesser mark have been opened at Worthing, Longton, near Caversham, Rhyl, &c.

In London and its vicinity we may record the completion of the Church of St. John of Jerusalem, presented by Sir George Bowyer, M.P., to the hospital of that name in Great Ormond-street; it is Italian in style, and has a marble gallery, or tribune, behind the high altar. The architect was Mr. Goldie. At Turnham Green, a small but neat Gothic church, designed by Messrs. Wilson and Nicholl has been completed; and at Croydon, one, also of little architectural importance, First Pointed in style; designed by Mr. Pugin.

Among the Dissenting bodies, the Congregationalists and Wesleyans, as usual, take the lead in church building. Last year we selected a Congregational church for engraving as an illustration of dissenting architecture; this year we give a Wesleyan chapel. The chapel stands in a field—doomed soon to be a field no longer—on the north side of Leighton-road, Kentish Town. It is a well-built and handsome edifice, but with an amount of ecclesiastical character that would have seemed an abomination to Wesleyans of the old school. Its general appearance will be seen by the engraving. It is built of Kentish rag, with dressings of Bath stone; is well proportioned: has a handsome west window of seven lights, with good tracery in the head. At the north-west angle is a tower with a tall stone spire, also of good form and harmonizing well with the building. The interior—planned as an auditory with special regard to the preacher being well seen and heard—is necessarily less church-like than the exterior. It is neat but without much ornament. A gallery, supported on light iron columns, is carried round three sides. It has an open-timber roof, and an apsidal termination, but this serves as an organ-loft and singers' gallery, not as a chancel; in front of it is the pulpit—large enough to contain three or four ministers. The architect was Mr. J. Tarring.

At Peckham a chapel has been built not very dissimilar in general character, but of less value architecturally. It is early Second Pointed in style; is constructed of Kentish rag, with Bath stone dressings; is 81 feet long, with a short apse, and 48 feet wide; and has a tower and thin spire, 120 feet high. The architect was Mr. Poulton; the cost under 5,000*l*.

Trinity Chapel, Duke-street, Southport, Lancashire, is a spacious cruciform building, 114 feet by 57, transepts 77 feet, with a lofty tower having a stair-turret capped by a brooch spire. It is of local stone, with Hoghton stone dressings; First Pointed in style, with carved capitals and dog-tooth mouldings. All the gables are surmounted with carved crosses. The nave is divided from the aisles by



No. 2.—Wesleyan Chapel, Kentish Town.

columns of polished Peterhead granite, and shafts of polished serpentine carry the principal timbers of the chancel roof. The roofs are of timber; all the windows have painted glass, by Edmundson; the floor is laid with Maw's encaustic tiles; the pulpit and font are of carved Caen stone. There are no galleries; the seats will accommodate 770 persons, including children. The cost, about 9,000*l*., was defrayed by John Fernley, Esq., of Southport. The architect was Mr. A. D. Cuffley. Schools and a minister's house are to be erected at a cost of 5,500*l*.

At Bolton, a chapel has been built of some elegance and architectural character. It is cruciform, with a very large six-light west window; a slender turret and spire at the south-west angle; north porch; and very high-pitched roofs. It is built of Yorkshire stone, with Wrexham stone dressings; has crosses on all the gables, and well-designed tracery in the windows. The interior is rather rich with carved corbels, and polished granite and marble shafts. There is a chancel shut off by a pierced screen, in front of which is a large pulpit of Caen stone carved. The choir has stalls; the roofs are open-timber work. It has 950 sittings, and cost 9,500*l*. The architect was Mr. Woodhouse, of Bolton.

A few other Wesleyan chapels may be named: in all, above 50 have been opened during the year. *Epsom;* of stock bricks, with red and blue bands; French Gothic in style, with some claim to originality of treatment; it was designed by Mr. B. Keeling (architect of the new church on Campden-hill, and the Music Hall in the Strand); has 250 sittings, but is capable of extension. *Banbury*, Oxfordshire; of local stone with Bath stone dressings, interior lined with brick; Second Pointed in style, cruciform, with a tall banded spire; 1,250 sittings; cost 4,000*l*.; architect, Mr. G. Woodhouse. Laird-street, *Birkenhead;* Second Pointed in style; 420 sittings; cost about 1,500*l*.; architects, Messrs. Hay. *Boroughbridge*, Yorkshire; First Pointed; of brick, with stone dressings; 450 sittings; cost 1,500*l*. Pevensey-road, *Eastbourne*, Sussex; "Continental Gothic;" of brick faced with flint and stone dressings; 70 feet by 42 and 46 feet high; 450 sittings; architect, Mr. R. K. Blessley. *Ilfracombe*, Devonshire; Second Pointed; of Appledore stone, with dressings of Bath stone; circular west window fitted with stained glass; gallery round three sides borne on light iron columns; 500 sittings; cost 1,750*l*.; architect, Mr. A. Lauder. Ashton-road, *Openshaw*, Lancashire; style, "Anglo-Italian;" 600 sittings; cost, 2,600*l*; architects, Messrs. Hayley, of Manchester. Widnes Dock, *Runcorn*, Cheshire; style, Italian; of Stourton stone, faced with brick; 85 feet by 60; 900 sittings; cost, 3,000*l*.; architect, Mr. G. Harris, jun. Balliol-road, *Bootle*, near Liverpool; First Pointed, French in character; of bluish graystone, with white stone dressings; apsidal chancel, separated from the nave by three arches borne on polished granite columns with foliated capitals; the three two-light chancel windows filled with painted glass, by Lavers and Barraud; octagonal pulpit of carved Caen stone; 800 sittings (of which 200 are free); cost, 5,400*l*.; architect, Mr. C. O. Ellison.

The Congregationalists are pressing forward church extension with great energy. Of the zeal with which church and chapel building is

prosecuted by them, a sample is afforded in the offer of Mr. S. Morley to give a third of the cost of twelve chapels, and to build entirely at his own expense six temporary iron places of worship in destitute localities. During the past year many new chapels have been built; but some of the most important of those begun, like that in James-street, Westminster, which will be very large and costly, oval in plan and Italian in style, will not be finished till next year. Of those completed, the following will serve as examples.

In Horton-lane, Bradford, Yorkshire, a large chapel, with schools attached, has been erected at a cost of above 11,000*l.*, from the designs of Messrs. Lockwood and Mawson, in what is called the Elizabethan style. The building is surmounted with an entablature and pierced parapet, and has at the angles towers of three stories, crowned with domes and gilt terminals. Between these towers is the entrance vestibule, which is approached by a high flight of steps. The principal façade, with its connecting arcade, is 185 feet long, and presents a rather striking appearance. The interior of the chapel is 184 feet long, 64 wide, and 47 high, has galleries on three sides supported on bronzed Doric columns. Above the galleries the order is Corinthian. The ceiling is relieved by panelling and Elizabethan ornament. The pulpit, of Caen stone, is carved in a like style.

The new chapel at Leek, Staffordshire, is Second Pointed in style, is built of Laddridge and Hollington stone; has 600 sittings; and has cost about 4,000*l.* The architect was Mr. Sugden, of Leek. The principal external features are a somewhat attenuated tower and spire 120 feet high, and a large five-light window (filled with stained glass, by Wailes) in the principal gable. The interior, 72 feet by 34, terminates in a polygonal apse, with a groined roof. This apse serves as an "orchestra," and has a separate entrance by a staircase in an angle turret, which is capped by a spire.

Sherwell Chapel, Plymouth, is cruciform, Second Pointed in style, and is built of local stone, varied in colour, in bands, quoins, and voussoirs, and with Portland stone tracery and dressings. The gable of the principal front, 75 feet to the apex, has on one side a tower and spire 140 feet high, on the other a stair turret with an octagonal roof spire. The interior is 94 feet long, with an apse 15 feet deep, which serves as an organ gallery, 53 feet wide and 48 high; has side galleries borne on coupled iron columns, and an open-timber roof. It has 1,200 sittings, and cost 6,000*l.* The architects were Messrs. Paull and Ayliffe.

Other Congregational chapels must be summed up in a list. Oxford-street, *Leicester*, Lombardic, of brick and stone; interior 74 feet long, 50 wide, and 30 high; cost over 4,000*l.*; architects, Messrs. Shenton and Baker. Abbey Foregate, *Shrewsbury*, Second Pointed, of Grinshill stone, with red bands, and Box stone dressings; tower at North-west angle 114 feet high; apsidal organ gallery; 900 sittings; cost, 6,000*l.*; architect, Mr. G. Bidlake. *Bilston*, Byzantine in character; of red brick, with Hollington stone bands and dressings; 600 sittings; cost 2,000*l.*; architect, Mr. G. Bidlake. High-street, *Newmarket*, on part of the site and out of the materials of the palace erected by Wren for Charles II.; Second Pointed; chief external

features, a tall tower and a large and handsome gable window with elaborate tracery; the interior terminates in an octagonal apse; 700 sittings; cost 2,200*l.*; architects, Messrs. Habershon and Pite. *Ewell*, Surrey, a pretty little Second Pointed building, of black flint, with Bath stone dressings, and a small angle turret and spire; no galleries; cost about 1,500*l.*; architect Mr. W. F. Poulton, of Reading.

The Baptists are the last to give up the "classic" in their chapels. But though in London they still cling to the old order, in the provinces they use more liberty, some even running to the extreme of mediævalism.

The chapel in the Walworth-road, noticed last year, has been opened. The chief, and, indeed, single architectural feature of the exterior, is a goodly octastyle Corinthian portico; the interior is plain, but forms a convenient auditory, and is efficiently ventilated; it has 850 sittings, and cost 5,900*l.*; the architects were Messrs. Searle, Son, and Yelf. This neighbourhood seems to be a Baptist stronghold. Mr. Spurgeon's immense Tabernacle is close at hand, and a new chapel is about to be erected from the designs of Mr. Brock, at a cost of 8,000*l.* or 9,000*l.*

Far more pretentious than the Walworth Chapel is Wycliffe Chapel, Birmingham, a Second Pointed edifice bristling everywhere with buttresses, pinnacles, crockets, and crosses. The entrance front is picturesque, though overdone as regards irregularity of form, and the size, shape, and tracery of the windows. At one side is a tower with lofty crocketed spire. The chief doorway is divided by a polished shaft, with foliated capital, above which, in the centre of the arch, is a statue of the Reformer. Above is a large six-light window, with elaborate tracery. In the smaller gable on the right is a good wheel window, over a four-light one, with a depressed arch. Inside are galleries, carried on iron columns, which are continued to the roof. Along the roof is an air chamber connected with ventilators outside, which assume the shape of a row of pinnacles, or dwarf *flèches* rising from the ridge. The building has 800 sittings, and cost 6,000*l.* The architect was Mr. J. Cranston.

Other Baptist chapels have been erected, at Manningham-lane, *Bradford*, Second Pointed, freely used; 1,000 sittings; cost, with lecture and school rooms, vestries, &c., about 6,500*l.*; architects Messrs. Paull and Ayliffe. Mile End, *Portsmouth*; Lombardic: like many of the new Baptist chapels, it has no pulpit, but, instead, a "preacher's platform, constructed with circular front, painted in lilac, white, and gold;" the architect was Mr. E. J. Smith; the cost 2,000*l.* Lake-road, *Landport*, Semi-Classic, 1,500 sittings; cost 3,500*l.*; architects, Messrs. Rawlinson, of Southport. Sansome-walk, *Worcester*, cruciform, with a tower and enriched lantern spire 110 feet high, on left of entrance front; carving and window tracery elaborate throughout; nave separated from aisles by slender iron columns painted blue and gold; roof open timber; 800 sittings; architects, Messrs. Pritchett and Sons, Darlington. Waterloo-road, *Wolverhampton*, First Pointed; of red brick, relieved with bands of blue brick and stone, with dressings of Bath stone; 550 sittings; cost 2,600*l.*; architect, Mr. G. Bidlake. College-street, *Northampton*, Corinthian

hexastyle; portico of Bath stone; 1,100 sittings; architect Mr. W. Hull.

The United Presbyterians, Primitive Methodists, and other sects, have contributed to swell the number of churches and chapels erected during the year; but we have noticed no work of theirs claiming notice for its architectural merits.

4. Buildings for Public Purposes.

The public and municipal buildings of our great manufacturing and commercial towns offer, from their magnitude, costliness, variety of purpose, and local character, a singularly favourable field for the exercise of architectural genius. And it is here that recent English architects have achieved some of their most undisputed triumphs. Each school has in turn had possession of the field, and each has left its trophy. In Birmingham, in Manchester, and in lesser towns, the classic architects erected works which their disciples still point to with pride, the culminant example being St. George's Hall, Liverpool, a building of its kind unrivalled for stately magnificence, but sacrificing all interior adaptation to its splendid hall. The palatial Italian succeeded; the Town Hall, Halifax, being the latest, and, in some respects, the best illustration of its applicability to a purpose for which, from its origin and employment in the grand old commercial cities of the South, it would have seemed especially fitted. Gothic has now its turn, and the opportunity has been well employed.

In the Companion for 1863, we gave an engraving and an account of the new Assize Courts, Manchester. The building had then much of its sculptural decorations and internal fittings to be added. It was first used at the late summer assizes. In its complete state it fully bore out all that was said of it, whilst as yet unfinished, alike as to its grandeur as a whole, the beauty of the parts, and the fitness and convenience of its arrangements.

This year we can point to another adaptation of Gothic to secular purposes, in its measure as artistic and successful as that of Mr. Waterhouse. The general character of the new Town Hall, Northampton, of which Mr. E. W. Godwin is the architect, will be seen from the woodcut, the scale of which, however, necessarily prevents the details being properly shown. As will be seen, the architect was limited for external effect to a simple frontage between neighbouring houses. That he has made the most of it few will doubt. The façade is well balanced in its proportions; declares the purposes of the building clearly; has an air of dignity without being cold or stern; is rich without ostentation or excess. The style is Gothic, but Gothic that owes more to the mind than the portfolio or the book-shelves of the architect. The first floor is marked out as the chief floor of the edifice by its range of noble windows set so closely together, while the eye is attracted to it, and retained, by the series of canopied statues extending the entire length of the façade. Emphasis is in like manner given to the entrance by the open arches on each side, by the balcony over it, and by the tower above. The end statues are St. George, as the patron saint of England, and St. Michael, the patron

of Northampton; between are the five kings, from Richard Cour de Lion to Edward IV., who have been in some way specially connected with the town, and Victoria, in whose reign the hall was erected: they are from the chisel of Mr. Bolton, of Worcester, and admirable as works of art. The rilievi over the lower windows represent events connected with the history of the town, whilst all the capitals in the façade have groups or figures suggestive of its trades, sports, &c. The vestibule, corridors, and grand staircase leading to the great hall, are also adorned with well executed and illustrative sculpture: thus the rilievi (by Nicholls) on each side of the vestibule, represent, one, the first Danish invasion, the other, a Danish landing that every one hailed with joy—that of Alexandra, as the affianced bride of the Prince of Wales. The hall itself, the chief feature of the building, is a room of noble proportions, having at one end the dais, at the other a minstrels' gallery, in which is the organ, designed to harmonize with the architecture. An arcade is carried round the hall; above it are circular windows filled with stained glass: and the principals of the open-timber roof, which rest on shafts of coloured marble, are pierced and relieved by elaborate decoration. Altogether, its appearance is splendid, whilst its acoustic properties, as tested by public speeches and concerts, have been pronounced satisfactory. Besides the great hall, there are a sessions-court, council-chamber, museum, reading-room, mayor's tribune, and reception-room, all more or less of an architectural or artistic character, and all, it is said, found to be well adapted to their respective purposes, and conveniently arranged with reference to each other. Whether the Preston Town Hall, erecting by Mr. Scott, will prove an equally successful application of Gothic to civic purposes we must wait till it is finished to see: more successful we hardly hope to find it. The façade of the new Town Hall of Congleton, in course of erection by Mr. Godwin, bears a considerable resemblance to that of Northampton, but is much less rich, and much less happy.

Tiverton Town Hall, opened by the Premier about the same time as that at Northampton, but a far less important structure, is late Venetian in character, and was designed by Mr. H. Lloyd, of Bristol. The chief feature of the exterior is an octagonal tower about 90 feet high: of the interior, the great hall, 52 feet by 32, and 27 feet high. It is a substantial and ornamental structure of local stone, with dressings of Bath stone, and columns of red Devonshire marble. The cost was about 8,000*l*.

Of the more important and ornate Italian Town Hall, erecting by Mr. C. Brodrick, at Hull, we reserve further notice till its completion: as, for the present, we do of the magnificent Exchange, at Liverpool, Mr. T. H. Wyatt, architect; and that erecting at Bradford.

Public Halls have been completed at the following among other places:—*Cirencester*, Italian in style, from the designs of Messrs. Medland and Maberly. *Easingwold*, Yorkshire; architect, Mr. Taylor, of York. *Swansea*; Mr. Wm. Richards, architect. *Oswestry*; Italian in style, with a tower 60 feet high; Mr. W. H. Spaull, of Oswestry, architect. *Brentwood*; Italian, with a Corinthian portico; Mr. W. G. Bartleet, of Brentwood, architect.

No. 3.—Town Hall, Northampton.

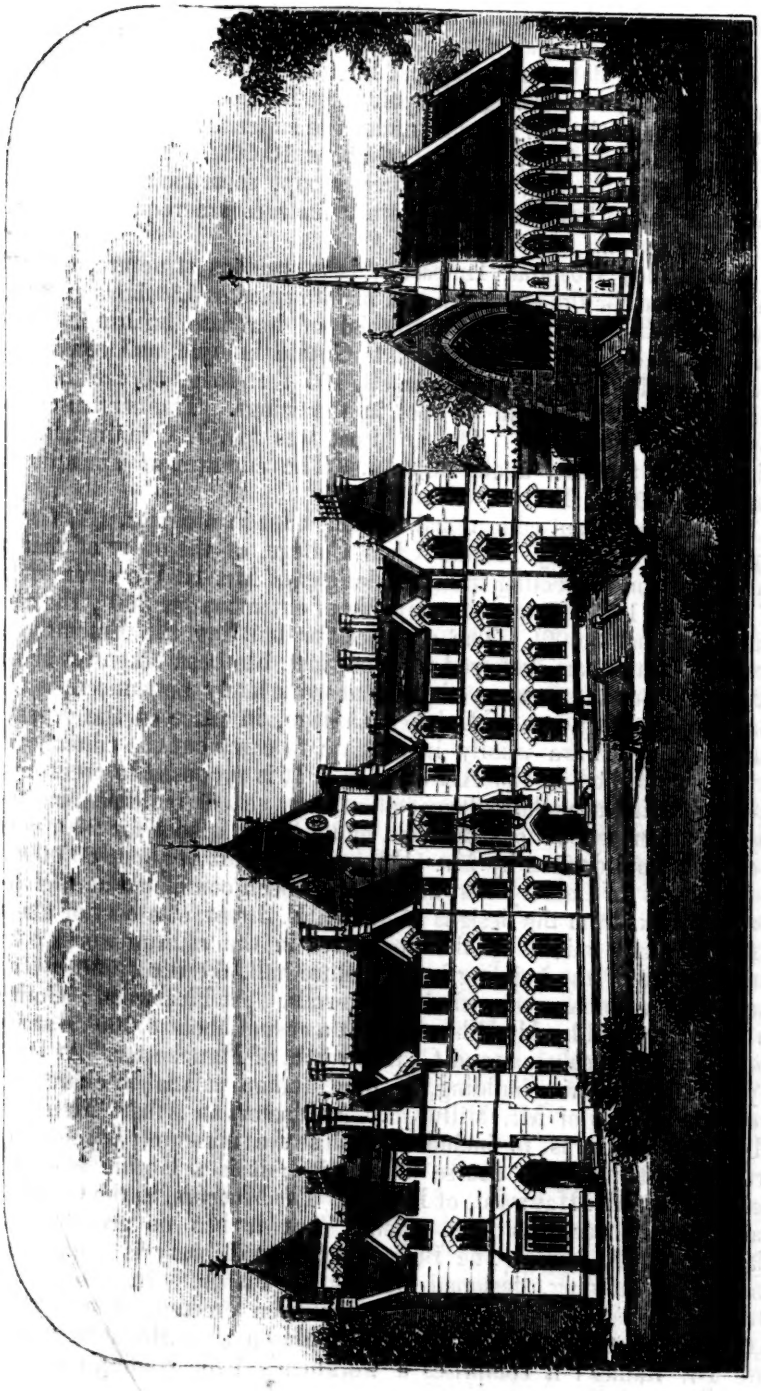
At *South Molton*, a large block of buildings has been erected, under the superintendence of Mr. Cross, of Exeter, comprising a Market House, Assembly Rooms, &c. A spacious covered market has been opened at *Darlington*, of which the chief architectural feature is a lofty and handsome clock tower. Covered Markets are also being constructed at Derby, and elsewhere.

The German Hospital, Dalston, just completed, from the designs of Professor Donaldson, is noteworthy rather for the care which has been given to the arrangement of the wards and offices for medical and sanitary purposes than for its architectural character. But it has, though plain, a more cheerful and pleasing aspect than many more costly buildings devoted to a like purpose. It stands on high ground by the North London Railway; is built of red brick, with stone quoins and dressings, and has stepped gables. It has cost about 15,000*l*.

The Leeds Infirmary (by Mr. Scott); the new wing of the London Hospital, designed by Mr. E. M. Barry, and of which the first stone was laid with much ceremony by the Prince of Wales; the French Protestant Hospital, by Victoria-park, Hackney; the Hospital for the Blind, Plymouth; the Eye and Ear Infirmary, Bradford; and the Surrey County Hospital, Guildford, are all more or less advanced: but the only one approaching completion is the last, a plain red brick building close to the Guildford Railway Station, the sanitary arrangements of which were submitted to the revision of Miss Florence Nightingale.

5. Buildings connected with Education, Art, &c.

The Albert Middle Class College, Framlingham, is the memorial raised by the county of Suffolk, in honour of the late Prince Consort. The ground on which it stands—a pleasant spot of fifteen acres, close by the ruins of the old castle of Framlingham—was the contribution of Pembroke College, Cambridge—a portion of some land held in trust by the college for educational purposes. The building, just completed from the designs of Mr. Frederick Peck, occupies an area of 240 feet by 230. The style, as will be seen, is "Collegiate Gothic;" its general character and appearance will be best understood from the engraving. As a school intended to furnish a sound but inexpensive middle-class education, it was desired that there should be no unnecessary outlay on architectural ornament. Such a building—at once a school and a memorial—should be simple, substantial, not deficient in a certain grave dignity of aspect; well fitted for its purpose and expressive of it; depending, in short, for its architectural effect on its general mass, outline, and arrangement of parts. The building is of red brick, with dressings of stone; is intended for 300 boys; and has cost, without the chapel, about 13,000*l*. The dining hall, large enough for 500 boys; the upper and the lower schools—similar in style and treatment to the principal front—with kitchens, offices, &c., are in the rear. Apart from the rest of the building, is an infirmary. The statue of the Prince Consort, 8 feet, on a pedestal 9 feet high, stands on the terrace, in front of the chief



No. 4.—Albert Middle Class College, Framlingham, Suffolk.

entrance. It is by Durham, a duplicate of that in the Horticultural Gardens, and was presented to the college by Mr. Lucas.

At Christ's College, Brecon, new School buildings (including a library, and a detached octagonal kitchen with a high roof) have been erected, and a College Chapel, First Pointed in style, rebuilt or restored from a chancel in ruins, under the superintendence of Messrs. Pritchard and Seddon, at a cost of about 10,000*l*. The new buildings are said to form an imposing group, somewhat monastic in character, but a lofty tower and other features are requisite to complete the design.

The Ripley Hospital, Lancaster, is a spacious structure, erected and endowed for the education and maintenance of 150 boys and 150 girls, by Mrs. Ripley, as a memorial of her late husband. The building is of local stone, Collegiate Gothic in style, and consists of a centre and advanced wings: in all, 195 feet long, 50 feet high in the recessed portion, and 68 feet in the wings. The central clock-tower is 110 feet high. The architect was Mr. J. Cunningham, of Liverpool; the cost about 30,000*l*. The endowment amounts to about 100,000*l*. Truly a splendid gift!

Several important educational buildings are in progress. At Cranley, Surrey, a County Middle Class College, of the order of that at Framlingham, is erecting from the designs of Mr. H. Woodyer; it is of brick, for 100 boarders, but capable of extension for 300; the cost will be about 8,000*l*. The contract for building the Freemasons' Schools, Tottenham, referred to in our last, has been taken for about 22,000*l*. But the greatest educational work lately announced, is the plan for erecting a new Dulwich College, in place of the present buildings, which are wholly inadequate to carry out the educational scheme embodied in the Act of 1857. It is proposed to erect on a favourable site, near the railway station, new school buildings, including an upper school or 230 boys, and a lower school for 200, with a chapel, from designs by Mr. C. Barry, at a cost of about 60,000*l*.

Buildings for Literary Institutions have been completed at *Wolverton*, of brick, from the designs of Mr. G. E. Street, at a cost of about 3,000*l*. chiefly raised by the operatives in the railway works: the chief feature of the building is the lecture hall, 60 feet by 30, which has an open-timber roof with iron tie-rods. At Fleetwood; Gothic in style; erected by Mr. Whitworth, at a cost of about 3,000*l*.; architects, Messrs. Speakeman and Charlesworth, of Manchester. At Dudley, a rather superior building, of stone, Italian palatial in character; from the designs of Mr. Millward. At Exeter, an Albert Memorial Museum, which is to include, besides the museum, a school of art and a library, is in course of erection: it is a Gothic building, designed by Mr. Hayward, of Exeter. The Museum, in the Queen's-park, Manchester, has been opened, but it has no architectural claim to notice here. The Birkenhead Free Library is a neat and convenient building, designed by Mr. J. Fisher. In Greenland-street, Liverpool, a large building has been erected, at a cost of 5,000*l*., from the designs of Mr. W. J. Mason, as a Memorial of the late Dr. Raffles: it comprises a workmen's hall, reading-rooms, a ragged school, &c.

Theatres have been erected at Manchester, Birkenhead, and Greenwich, but they are not of such architectural character as to claim special notice. One in course of erection at Bradford, from the designs of Messrs. Andrews and Delaunay, and which is intended to serve as an opera-house, is of a somewhat superior order.

The "Strand Musick Hall" is a building that has succeeded in one great purpose of its projectors—it attracts the notice of every one passing along that busy thoroughfare. The architect, Mr. E. B. Keeling, has published an account of the building, and an explanation and defence of the principles on which it was designed. "Continental Gothic," he says, "is the basis of this eclectic design; and if the architect has succeeded in erecting a structure which, departing from recognised codes, outrages none, he trusts that unity and comprehensiveness in the execution of a difficult task will obtain for him a just appreciation of his work." Whatever else be denied, credit must be given to the architect for the zeal and labour he has bestowed on his task. But they have been misdirected we fear, and the building, eccentric rather than beautiful, is, from beginning to end, an elaborate mistake—good intention and excellent work misapplied: unsatisfactory, but suggestive.

6. Street Architecture.

The City, it has been said, and not untruly, is in course of reconstruction. Into whatever part you penetrate, banks, offices, warehouses, shops, are being built, or large vacant spaces mark the sites of costly edifices about to be erected. But being in this transition state it will be enough merely to indicate what is being done, leaving a fuller review till some of the more important buildings in progress are completed. Lombard-street, which seems the centre of building operations, is filled with scaffold poles and hoarding for more than half its length. Of the completed buildings, the most important is the bank of Messrs. Robarts, Lubbock, and Co., by Mr. P. C. Hardwick, a solid and stately rather than showy structure. As in many City buildings of the class, its chief architectural character is appropriately given to the basement floor, in which alone public business is transacted. The bank of Messrs. Barclay, Bevan, and Co., in course of erection on the opposite side of the street, by the same architect, is equally massive, but more ornamental, and much larger, having a frontage nearly 100 feet long, and 60 high. Nearly opposite to it, at the corner of Clement's-lane, a large, lofty, and somewhat ornate edifice is being built for the Royal Insurance Company, from the designs of Mr. J. Belcher, at a cost of above 17,000*l.*; and at the opposite corner of Clement's-lane, a bank is building for Messrs. Alexander, Mr. Waterhouse, of Manchester, architect, of which the distinctive feature appears to be the large polished granite columns. Another spacious building is being erected in Clement's-lane, from the designs of Messrs. Francis, at a cost of some 20,000*l.* A bank of large dimensions is in progress opposite the Mansion House; and in Cornhill one for the East London Bank; architects, Messrs. Long and Bond. In George-yard, Lombard-street, a large building is

erecting for the City Club, from the designs of Mr. J. H. Rowley. In Threadneedle-street a building of considerable architectural pretension has been erected, on the site of the well-known Cock tavern, for the North British and Mercantile Insurance Company. The style is Italian, but not very pure; the front is of Portland stone, with polished granite shafts; the architects were Messrs. Piper and Goodchild. Less pretentious, but not less elegant, is the new façade of the London and Caledonian Insurance Office, in Old Broad-street. Three or four other buildings, of more or less magnificence, are rising close at hand.

The great fire, last September, in Gresham-street, which swept through—and in two or three hours reduced to bare walls—vast stacks of warehouses built but a very few years back at great cost, on "fire-proof principles," and destroyed the fine old banqueting hall of the Haberdashers' Company, affords another proof that the limit of safety has been overstepped in such structures. But there seems no abatement in the tendency to erect buildings of such enormous dimensions. The warehouse of Mr. Hugh Jones, in Wood-street (Mr. T. Burton, architect), of which the unfinished part was damaged by the fire, is no less than 110 feet long, and six stories high. It is a building worth seeing, having some originality and character, but rendered monotonous by the repetition of its perpendicular stripe-like buttresses, and deficiency, through so great an extent, of horizontal lines. Of a different class of City warehouses, namely, for colonial produce, a rather favourable example is afforded by those erected for Messrs. Hunt and Crombie, in Eastcheap (Messrs. Young and Son, architects), where the value of terra cotta is well displayed; but the design is marred—the purpose of the building being considered—by an exuberance of colour and ornament. In Mark-lane, not far off, an attempt has been made, in some offices designed by Mr. Aitcheson, to produce effect by the use of incised ornament and coloured inlays. This building is, however, chiefly remarkable for having the framework constructed almost wholly of iron. The same architect has erected another large stack of offices in Mincing-lane, on a somewhat similar principle; the fronts of both are chiefly of Portland stone. Other warehouses and offices have been built, or are building, in Mincing-lane, in Fenchurch-street, Cannon-street, Queen-street, Bishopsgate-street, &c.

But we must not confine our attention to the City banks and warehouses. The Union Bank is erecting a branch office at the corner of Carey-street, Chancery-lane (Mr. F. Porter, architect), at a cost of about 30,000*l.*; but it is hardly sufficiently advanced for its architectural character to be fairly estimated. This tendency of the banks to radiate outwards, is leading to the erection of new branch offices at Charing-cross, in Holborn, and even in such unarchitectural districts as Whitechapel, Camden Town, and the like; but generally they are not buildings of much mark. A few shops might be noticed had we space; among others those of Messrs. Redmayne and Mr. H. Emanuel, in New Bond-street; Lewis and Allenby, in Conduit-street; Messrs. Marshall and Snelgrove; Messrs. Tarn, &c.; but they must of necessity be passed over now.

Two famous West-end institutions have shifted their quarters, and in so doing afforded some architectural employment. But Messrs. Tattersall, though their new rooms occupy a more conspicuous site, hardly make more architectural display at Knightsbridge than they did at the "Corner." The place of the Old Thatched House, St. James's-street, is occupied by a noticeable new building, intended for a club-house, but now parcelled out as chambers. It is a costly and handsome structure; but the striking feature is the amount of elaborate carving, in which, by means of natural foliage and birds (very cleverly executed by Mr. Dayman), the architect, Mr. J. Knowles, jun., has endeavoured to keep in memory the poetry of the old name of the building.

The vacant spaces along the new streets are gradually filling up. In New-street, Covent Garden, the Garrick Club is the most pretentious pile: but the architect, Mr. Marrable, has seemingly given his chief care to the interior. Its mass makes it imposing among its smaller neighbours; but nothing can atone for a building of such magnitude being covered with stucco. On the other side the way, a particoloured brick building, designed by Mr. Blomfield, for Messrs. Heaton's stained-glass works, is little more satisfactory. In Victoria-street, Westminster, two immense piles are building: Westminster Chambers, opposite the Westminster Palace Hotel, Messrs. Banks and Barry, architects, are to consist of two parallel ranges, each 430 feet long, and five stories high, and to cost about 150,000*l.*; and the distillery of Messrs. Vickers, which is to cost nearly 30,000*l.* for the building, and of which Messrs. Mayhew and Calder are the architects. In the new Southwark-street, a conspicuous pile of warehouses has been erected on the south side, of yellow brick, with red and black bricks in the arches, &c., in a sort of Gothic style; and on the north side, one for Messrs. Moses (architect, Mr. N. S. Joseph), in which moulded brick is employed to excellent purpose. Others are begun, or proposed, for the Hop Planters' Company, Mr. E. I'Anson, architect; for Messrs. Tait and Co., Mr. R. J. Pope, architect, &c. A warehouse, in Southwark Bridge-road, near Southwark-street, Lombardic in style, Mr. Jarvis, architect, deserves a note for the quiet good taste with which all the details are carried out. The most backward of the new streets is Farringdon-road; but now that the civic authorities have taken the initiative, though only with industrial dwellings, no doubt others will follow.

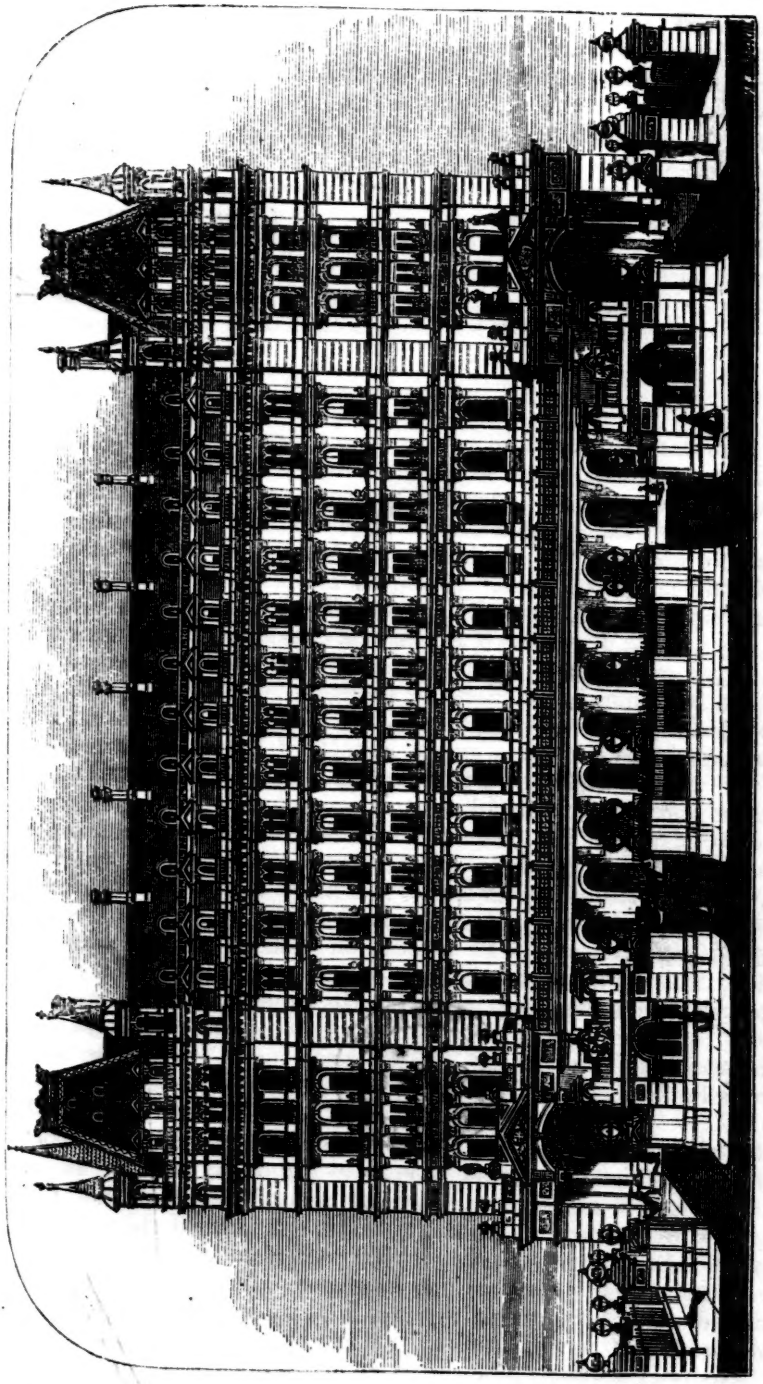
As our example of the street architecture of the year, we have taken the Charing Cross Hotel and Railway Station. These great hotels are becoming one of the most striking features of our towns, and almost promise to develop a fresh form of civic architecture. The Charing Cross Hotel is a good illustration of their magnitude and costliness. In the last report of the directors, it was stated that the contract for the construction of the building amounted to 121,542*l.*, of which 10,000*l.* would be repaid by the railway company for their booking-offices; that 20,000*l.* would be required for furnishing the hotel in the most economical manner, and that "50,000*l.* would complete it." Up to last June, 153,565*l.* had been expended, and the directors were "about to exercise their borrowing powers" to the

extent of 50,000*l*. Better than any description, the engraving will explain the general character of the building: the details can, of course, on so small a scale, be barely suggested. It will be understood that it is merely an elevation of the principal front: the building extends nearly as far down Villiers-street as along the Strand. Its style may be called, broadly, Italian: the order is Corinthian. Emphasis is given to the principal entrances by the carving above and the polished granite columns at the sides. Coloured materials are introduced in no other part except the chimney stacks, in which are red terra-cotta shafts. There is a good deal of carving in the front, and some moulded stucco. The basement is appropriated to the railway booking-offices. The chief rooms will be appropriated as in the most luxurious of the great modern hotels; and there will be 250 bed-rooms. It is impossible to look at the building itself without feeling that it is a very noble structure, whatever exception may be taken to some of the details. But in looking at the cut it must be remembered, that there is being erected in the centre of the open space in front a free reproduction of the Eleanor cross which formerly stood at Charing Cross, and which promises to add considerably to the picturesqueness of the pile as seen from the Strand. Being as yet unfinished, and, as we were informed, the details not being fully settled, it was impossible to include it in the cut, which is taken, we may add, from a photograph kindly furnished by the architect, Mr. E. M. Barry.

Rivalling the Charing Cross Hotel in size and cost is the Langham Hotel, Portland-place, as yet unfinished, but sufficiently advanced to show that it will be a really magnificent structure. It is to contain about 40 drawing and private sitting rooms, and 300 bed-rooms. The architect is Mr. J. Giles.

Several other of these great hotels are in progress. The Inns of Court Hotel, which will extend from Holborn to Lincoln's Inn Fields, and occupy the site of the notorious Whetstone Park, is advancing rapidly. It is Italian in style, of Portland stone, with columns of polished granite and serpentine, and is to have a large central covered court. The architects are Messrs. Lockwood and Mawson, and the builder's contract is 65,000*l*. Of the rest the immense building for the Strand Hotel is perhaps most advanced, but is still a long way from completion. The Agricultural Hotel, Salisbury-square, Fleet-street, is from the designs of Mr. J. Giles, the architect of the Langham Hotel, but is of much less architectural promise. It is to cost 24,000*l*. The new hall of the Freemasons' Tavern is advancing. In the suburbs the famous Star and Garter, Richmond, having passed into the hands of a limited liability company, is having a new wing, which will double its capacity, added to it by Mr. E. M. Barry; and on the slope of the hill below a rival limited liability hotel is fast rising.

We might follow the hotel movement into the country; for hotels, some of a very costly character, have been newly built, or are building, everywhere. For instance, the Grand Hotel, Brighton, Mr. J. Whichcord, architect, is nine stories high, and has had in all 150,000*l*. expended upon it. The building of one at the Lime-street station, Liverpool, is to cost nearly 60,000*l*. The Randolph Hotel, Oxford, is



No. 5.—Charing Cross Hotel and Railway Station.

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a spacious semi-Gothic edifice erecting opposite the University Galleries from the designs of Mr. Wilkinson. At Norwich a large hotel is erecting from the designs of Messrs. Banks and Barry. The Royal Clarence, Dover, Mr. J. Whichcord, architect, will cost over 50,000*l.* building; and others are erecting at Plymouth, at Scarborough, at Harwich, and, if not building, are at least projected at almost every other watering place, whatever be its size.

The street architecture of the provinces must be left this year untouched; but the building of warehouses, offices, banks, and shops is going on with great animation at Liverpool, Manchester, Birmingham, Leeds, Bradford, Bristol, Leicester, and other large towns—in some of these indeed almost beyond precedent.

7. Bridges, Docks, &c.

The old Blackfriars-bridge is in course of demolition, and until it is removed, much visible progress cannot be made with the new one. Meanwhile, a convenient temporary bridge has been opened of a kind that might be not unprofitably imitated, under some conditions of locality and cost, in a permanent structure. Of the new railway bridges enough has been said elsewhere. Acts have been obtained for new bridges to cross the Thames at Chelsea, from Cadogan Pier to the west side of Battersea Park, and at Wandsworth.

In the country, bridges have been built at Burton-upon-Trent, of stone, Mr. J. S. Crossley, engineer; at Salford, of iron; and across the Wyre, at Shard, of 16 arches of iron and stone, 960 feet between the abutments, designed by Messrs. Myers and Veevers, of Preston; and the Clifton Suspension is approaching completion.

Acts were passed last Session empowering the construction of two new docks in London, and the enlargement of the Commercial Docks. The Millwall Canal and Graving Docks, engineer, Mr. Wilson, will be formed in the Isle of Dogs, and extend across the isle from east to west for about a mile, with a branch extending at right angles from the centre for half a mile northward. The West London Docks, chiefly for barges, will be on the east side of Battersea-park. The connection with the Thames will be by an opening immediately west of the Southwark Water-works. The form is very irregular: there will be two narrow docks, one north, the other south of the Battersea-road, connected by a long canal. The engineers are Sir Charles Fox and Mr. J. Gibbs.

Dock extension is projected at Cardiff on an immense scale; the Marquis of Bute proposing to expend nearly two millions on the works, but some modification will have to be made in the original scheme. At Bristol, the Dock Committee propose to expend £300,000 on dock extension, and the improvement of the Avon; whilst new docks for the accommodation of ocean steamers are about to be constructed at the north of the river in connection with the Port and Pier railway. At Liverpool, at Milford Haven, and elsewhere, extensive works are proposed or commenced; and at Hartlepool a large timber dock has been completed.

James Thorne.

VIII.—ABSTRACTS OF IMPORTANT PUBLIC ACTS

PASSED IN THE SIXTH SESSION OF THE EIGHTEENTH PARLIAMENT OF GREAT BRITAIN AND IRELAND.

INCLOSURE.

[27 Victoriæ, cap. 1.—March 18, 1864.]

An Act to authorise the Inclosure of certain Lands in pursuance of a Report of the Inclosure Commissioners for England and Wales.

The first Act passed for the Session was for the inclosure of the following twenty-one places:—viz., in *Cheshire*—Nantwich Barony. *Cornwall*—Reperry Common. *Cumberland*—Ennerdale; Kirkland Fell. *Gloucestershire*—Sandhurst, Norton, and Wootton. *Lincolnshire*—Bucknall. *Norfolk*—Briston. *Northamptonshire*—Lutton. *Northumberland*—Ayle Common; Earle and Wooler Common; Ford Common; West Newton Common; Wooler and Hambleton. *Radnorshire*—Norton. *Suffolk*—Bedingfield. *Wiltshire*—Marston Maisey. *Worcestershire*—Berrington; Blackwell. *Yorkshire*—Gammersgill; Yearsley Moor. The total land thus inclosed amounts to 19,489 acres.

BILLS OF EXCHANGE (IRELAND).

[27 Victoriæ, cap. 7.—April 28, 1864.]

An Act to amend the Law relating to Bills of Exchange and Promissory Notes in Ireland.

From the passing of this Act, Notaries in Ireland are not required to keep their offices open from six to nine in the evening, nor to attend after six to receive payment of any bill or note, and any bill or note of which payment is not made before that hour is to be deemed legally dishonoured.

CONVEYANCES, &c., IRELAND.

[27 Victoriæ, cap. 8.—April 28, 1864.]

An Act to amend the Laws relating to Conveyancing, Special Pleaders, and Draughtsmen in Equity practising in Ireland.

On and after February 1, 1865, the Commissioners of Inland Revenue are not to grant certificates to any person acting in any of the above-named capacities, except on their depositing an order from the Benchers of the King's Inns at Dublin authorising the same; the certificate, when granted, to be good and valid until the same shall have been revoked for misconduct by the Benchers; but all persons legally so acting on January 11, 1865, are to be deemed qualified, and are to receive an order to take out a certificate, unless the Benchers are not satisfied. All persons acting in the above capacities, as well as solicitors, attorneys, proctors, or notaries, for fee or reward, are required to take out certificates, and those not doing so are liable to penalties of any sum not exceeding 20*l.* nor less than 5*l.*, recoverable in any of the superior courts or courts of petty

session in Ireland. But no conveyance merely transferring shares or stock in any public company in which there is no trust or limitation to be deemed a conveyance.

MALT FOR ANIMALS.

[27 Victoriæ, cap. 9.—April 28, 1864.]

An Act to allow the making of Malt Duty free to be used in feeding Animals.

On taking out a proper license as maltster (§1) and on giving security as required by the Act, any person may make and use malt free of duty for the feeding of animals if mixed with linseed cake, linseed meal, or such other substance as may be hereafter prescribed by the Commissioners of Inland Revenue. All persons (§ 2) wishing to make malt for such purposes are to enter into a bond with two sufficient securities that there be no fraud by removing unmixed malt from the premises. The malt-house (§ 3) is to be conspicuously designated as such by letters upon the principal entrance, at least three inches in height, with the words underneath, 'entered to make malt for the feeding of animals.' The malt (§ 4) is to be conveyed from the store to the grinding-room under such regulations as the Commissioners shall appoint, and (§ 5) the maltster is to provide a secure room for the grinding and mixing of the malt. The malt (§ 6) is to be mixed with at least one-tenth of its weight of linseed cake, linseed meal, or such other substances as the Commissioners shall direct, in quantities of not less than forty bushels at a time, and in the presence of an officer of excise; any neglect incurs forfeiture of the malt and other material. The maltster (§ 7) is to keep an account of all malt sent out, and the name of the person to whom it is sent. The penalty for separating, or attempting to separate the malt from the material with which it is mixed, or for using the mixed malt for brewing or distilling, is subjected by § 8 to a penalty of 200*l.* and the loss of the malt. Persons found unlawfully removing malt from a malt-house entered under this Act (§ 9) are to be dealt with in the manner directed by the 18 & 19 Vict. cap. 94, § 18. All the provisions of former Acts (§ 10) relating to maltsters and the making of malt are to be applied to the purposes of this Act. Justices of the peace making malt under this Act (§11) are not to be disqualified from granting ale-house licenses. The Act (§ 12) is to continue and be in force for five years.

WAREHOUSING OF BRITISH SPIRITS.

[27 Victoriæ, cap. 12.—April 28, 1864.]

An Act to amend the Laws relating to the Warehousing of British Spirits.

British spirits (§ 1) in duty-free warehouses may be removed to a separate room or place approved by the Commissioners of Inland Revenue, to be bottled for exportation or for ships' stores, but such place or room must have no internal communication with the warehouse, nor with the premises of a rectifier or distiller, and twenty-four hours' notice must be given to the excise officer. They must be drawn off in quart or pint bottles, and packed in cases (§ 2) containing not less than one dozen quarts or two dozen pints, the cases to be fastened and branded as may be directed, and no deficiency in drawing off to be allowed exceeding

two per cent. When so bottled, and packed (§ 3), the spirits may be removed to a ship's or a customs' warehouse for exportation in the like manner as with casks. Spirits deposited in the name of a distiller in an excise warehouse without payment of duty (§ 4), if of a strength not less than 43 per cent. above proof, may be reduced with water in a warehouse specially appointed for that purpose, and in the manner directed, to any strength at which he might lawfully send the same out of his stock. A distiller or proprietor of an excise warehouse may be required to provide a separate room (§ 5) for racking duty-paid spirits; and if an excess is found of more than 1 per cent. above the quantity therein upon the last taking of stock, the excess to be forfeited, with a penalty of 20*s.* for every gallon of such excess. The allowance (§ 6) upon the deficiency arising from the vatting of spirits in warehouse is increased from a half per cent. to 1 per cent. The duty (§ 7) is to be paid on delivery from the excise warehouse on the quantity actually delivered, where there has been no fraudulent or improper deficiency; but where any deficiency (§ 8) beyond natural waste is found in the quantity of any cask or package there deposited, the duty on the quantity originally warehoused is to be demanded immediately, and if not paid by the owner on a demand made in writing, he is to forfeit double the amount of the duties. If any spirits deposited without payment of duty (§ 9) shall be fraudulently concealed, abstracted, or removed from the warehouse, all that remains of the cask or package is to be forfeited, and the distiller or proprietor of the warehouse is subjected to a penalty of 200*l.*; and any distiller or proprietor (§ 10) opening or giving access to any warehouse, except in presence of an excise officer, incurs a forfeiture of 500*l.* Plain British spirits (§ 11) to which no sweetening or other matter altering the strength has been added, may be removed, on a bond being given, from an excise warehouse to a customs' warehouse, and may be delivered from the customs' warehouse for home consumption on payment of the proper duty, the amount to be paid over to the account of the Receiver-General of the Inland Revenue. The allowance of 2d. per gallon on British spirits deposited in customs' warehouses (§ 12) is not to be paid until the spirits are actually exported or used for fortifying wines. By § 13 the powers and provisions of the Customs' Acts are to be applied to spirits warehoused in customs' warehouses; bonds (§ 14) are to be given in a form to be directed by the Commissioners; the penalties (§ 15) are to be recovered as other excise penalties; and § 16 repeals certain clauses of the 23 and 24 Vict. cap. 114.

VESTRY CESS ABOLITION, IRELAND.

[27 Victoriæ, cap. 17.—May 13, 1864.]

An Act for the Abolition of Vestry Cess in Ireland, and for other Purposes relating thereto.

From and after the passing of this Act, no Vestry in Ireland is to make or levy any compulsory rate or assessment for any purpose whatever; the powers of such Vestries with respect to deserted children are also to cease; such children to be relieved under the Acts for the Relief of Destitute Poor. All officers deprived of salaries, fees, or other emoluments by the alteration, are to be compensated, and power is given for raising funds for the purpose.

CUSTOMS AND INLAND REVENUE.

[27 Victoriæ, cap. 18.—May 13, 1864.]

An Act to grant certain Duties of Customs and Inland Revenue.

The first two sections enact the duties, taxes, stamps and remissions as detailed in schedules A, B, C and D; and that the provisions of former Acts for procedure, penalties, &c., are to apply to this. By § 3 the Commissioners of Customs are to provide standard samples of sugar for the purpose of assessing the duty. The remaining sections enact the rates and times as given in the schedules, viz., that by schedule A. Customs Duties on and after May 5, 1864—

	£	s.	d.
Sugar candy, brown or white, refined sugar, or sugar rendered by any process equal in quality thereto . . . . . the cwt.	0	12	10

On and after April 16, 1864—

White clayed sugar, or sugar rendered by any process equal in quality to white clayed, not being refined or equal in quality to refined. the cwt.	0	11	8
Yellow muscovado, and brown clayed sugar, or sugar rendered by any process equal in quality to yellow muscovado or brown clayed, and not equal to white clayed . . . . . the cwt.	0	10	6
Brown muscovado, or sugar rendered by any process equal in quality thereto, and not equal to yellow muscovado or brown clayed. the cwt.	0	9	4
Any other sugar not equal in quality to brown muscovado . . . . . the cwt.	0	8	2
Cane juice . . . . . the cwt.	0	6	7
Molasses. . . . . the cwt.	0	3	6
Almonds, paste of; cherries, dried; comfits, dry; confectionary, not otherwise enumerated; ginger, preserved; marmalade; plums preserved in sugar; and succades, including all fruits and vegetables preserved in sugar, not otherwise enumerated . . . . . the lb.	0	0	1

Drawbacks are allowed according to the description of sugar exported.

The duty on wheat, barley, oats, rye, peas, beans, maize or Indian corn, buckwheat, bear or bigg is, from and after Sept. 1, 1864, to be 3*d.* per cwt. instead of being reckoned by the quarter.

The duties of customs now charged on tea, on and after Aug. 1, 1864, until Aug. 1, 1865, importation into Great Britain or Ireland is to be 1*s.* per pound.

Schedule (B.)—Excise Duties.

On sugar made in the United Kingdom on and after April 16, 1864, in lieu of the duties of excise now chargeable thereon, the duties are to be the same as the customs' duties on importation; except that on—

	£	s.	d.
Sugar used in brewing, for and upon every cwt., and so in proportion for any greater or less quantity of all sugar used by any brewer of beer for sale, in the brewing or making of beer, is to be . . . . . per cwt.	0	3	4

	£	s.	d.
On licences taken out yearly to trade in or sell coffee, tea, cocoa nuts, chocolate or pepper, in any house rated to the relief of the poor less than 8*l.* per ann. the duty of	0	2	6

On occasional licences to refreshment-house keepers, wine retailers, beer retailers, and tobacco dealers—

To the keeper of a refreshment house, for each day for which such licence shall be granted .	Nil.		
For and upon every occasional licence to retail foreign wine, to be consumed at the place where sold, for each day	0	1	0
For and upon every occasional licence to retail beer, to be consumed at the place where sold, for each day	0	1	0
For and upon every occasional licence to deal in or sell tobacco or snuff, for each day	0	0	4

On Licences to hawkers and pedlars—

For and upon any licence to be taken out on or after Aug. 1, 1864, and by every hawker, pedlar, petty chapman, and every other trading person going from town to town, or to other men's houses, and travelling either on foot or otherwise, in Great Britain, carrying to sell or exposing to sale any goods, wares or merchandise—			
If travelling and trading on foot, without any horse or other beast bearing or drawing burthen, and shall carry his goods, wares, or merchandise to and sell or expose for sale the same at other men's houses only, and not in or at any house, shop, room, booth, stall, or other place whatever, belonging to or hired or occupied or used by him for that purpose, in any town to which he may travel, the yearly duty of . .	2	0	0
If travelling or trading otherwise than as aforesaid, or with a horse or other beast bearing or drawing burthen	4	0	0
If travelling or trading with more than one horse or other beast bearing or drawing burthen, then for each horse or other beast with which he shall so travel	4	0	0

SCHEDULE (C.)—STAMPS.

Fire Insurances made or renewed on or after June 25, 1864, of or upon any goods, wares or merchandise, being stock in trade, or of or upon any machinery, fixtures, implements or utensils used for the purpose of any manufacture or trade, there shall be charged and paid yearly a duty at and after the rate of 1*s.* 6*d.* per cent., instead of 3*s.* as levied previously.

	£	s.	d.
Letters or powers of attorney, proxies, &c., for the sale, transfer, or acceptance of any of the government or parliamentary stocks or funds, if the value shall exceed 20*l.* . . .	1	0	0
And if such value shall not exceed 20*l.* . . .	0	5	0

For the receipt of dividends or interest of any of the government or parliamentary stocks or funds, or of the stocks, funds, or shares of or in

any joint stock company or society, whose stocks or funds are divided into shares and transferable—

	£	*s.*	*d.*
For the receipt of one payment only	0	1	0
For a continuous receipt or for the receipt of more than one payment	0	5	0
For the receipt of any sum of money, or any cheque, note, or draught for any sum of money not exceeding 20*l.* (except in the cases aforesaid), or any periodical payment (other than as aforesaid), not exceeding the annual sum of 10*l.*	0	5	0

Letters or power of attorney, commission, factory, mandate, or other instrument in the nature thereof—

For the sole purpose of appointing, nominating, or authorising any person to vote as a proxy or otherwise at one meeting of the proprietors or shareholders of any joint stock or other company, or of the members of any society or institution, or of the contributors to the funds thereof, or at one meeting of any body exercising a public trust, in the United Kingdom, or to vote at one parish meeting of the heritors or proprietors of real or heritable property in Scotland	0	0	1
Voting paper.—Any instrument for the purpose of voting by any person entitled to vote at any such meeting as aforesaid in any part of the United Kingdom.	0	0	1
For and upon any letter or power of attorney made by any petty officer, seaman, marine, or soldier serving as a marine, or by the executors or administrators of any such person, for receiving prize money or wages	0	1	0
For or upon any letter or power of attorney of any other kind or commission or factory in the nature thereof	1	10	0

Exemptions.

Any letter of attorney for the receipt of dividends of any definite and certain share of the government or parliamentary stocks or funds producing a yearly dividend of less than 3*l.*

Any letter or power of attorney or proxy filed in any ecclesiastical court.

Appointments to ecclesiastical benefices, &c.

Where the net yearly value of any such benefice, dignity, promotion or perpetual curacy—

	£	*s.*	*d.*
Shall exceed 50*l.* and not exceed 100*l.* . . .	1	0	0
„ 100*l.* „ 150*l.* . . .	2	0	0
„ 150*l.* „ 200*l.* . . .	3	0	0
„ 200*l.* „ 250*l.* . . .	4	0	0
„ 250*l.* „ 300*l.* . . .	5	0	0
And where such value shall exceed 300*l.* . . .	7	0	0
And also (where such value shall exceed 300*l.*) for every 100*l.* thereof over and above the first 200*l.* a further duty of	5	0	0

	£	s.	d.
For and upon any collation, institution or admission by any presbytery or other competent authority to any ecclesiastical benefice in Scotland	2	0	0

Exemptions.

1. Any collation or appointment by any archbishop or bishop to any cathedral, prebend, dignity, or honorary canonry having no endowment or emolument attached thereto.
2. Any institution proceeding upon a presentation.
3. Any licence to hold a perpetual curacy proceeding upon a nomination.

SCHEDULE (D)—INCOME TAX.

For one year commencing April 6, 1864, for every twenty shillings of the annual value or amount of all property, profits and gains, subject to the duty (except those chargeable under schedule B) the rate or duty of sixpence.

And for and in respect of the occupation of lands, tenements, &c., chargeable under schedule B, for every twenty shillings of the annual value thereof, in England, the rate or duty of threepence; and in Scotland and Ireland respectively, the rate or duty of twopence farthing.

Subject to the provisions of cap. 22 of last session, for the exemption of persons whose whole income from every source is under 100*l.* a year, and the relief of those whose income is under 200*l.* a year.

PROMISSORY NOTES, IRELAND.

[27 Victoriæ, cap. 20.—May 13, 1864.]

An Act to remove certain Restrictions on the Negotiation of Promissory Notes and Bills of Exchange under a limited Sum in Ireland.

A short Act, to repeal so much of the 8 and 9 Vict., cap. 37, as prohibits or restrains the negotiation in Ireland of promissory notes or bills of exchange of a less value than 5*l.* This Act is to continue in force for two years from the time of passing, and until the end of the then next ensuing session of Parliament.

REGISTRATION OF COUNTY VOTERS, IRELAND.

[27 and 28 Victoriæ, cap. 22.—June 23, 1864.]

An Act to amend the Laws which regulate the Registration of Parliamentary Voters in Counties in Ireland.

The whole of this long Act is to regulate the machinery for making the registration, to facilitate the appointing of new polling-places, or altering former ones, the holding of courts of revision, &c., &c.

CHAIN CABLES AND ANCHORS.

[27 and 28 Victoriæ, cap. 27.—June 23, 1864.]

An Act for regulating the Proving and Sale of Chain Cables and Anchors.

"For the better security of Lives and Property afloat in sea-going Ships," this Act enables Corporate Bodies to provide proving esta-

blishments for the testing of chain cables and anchors. The Board of Trade may also grant licences to corporate or public bodies, or to companies or persons, for the like purpose, and appoint inspectors to examine the machinery employed, which must be reported efficient before being annually renewed. The fee for a licence is to be fixed by the Board of Trade, but is not to exceed 50*l*. The tester is required to test all cables and anchors with reasonable despatch, and in the order in which they are brought; they are to be subject to the same proof as that adopted in the Royal Navy; every anchor is to be stamped with the authorised mark of the tester, and every chain cable on each five fathoms of its length; and after July 1, 1865, the selling of unproved chain cables, or anchors of a weight above 168 lbs., is declared unlawful, and subjects the seller to a penalty, on summary conviction, not to exceed 50*l*. Any person stamping a chain unproved, or counterfeiting the stamp of the tester, is declared guilty of a misdemeanour, and upon conviction may be imprisoned for any term not exceeding two years, with or without hard labour, and with or without solitary confinement. The Act is to be in force till July 1, 1872.

INSANE PRISONERS ACT AMENDMENT.

[27 and 28 Victoriæ, cap. 29.—June 23, 1864.]

An Act to amend the Act of 3 *and* 4 *Vict., cap.* 54, *for making further Provision for the Confinement and Maintenance of Insane Prisoners.*

After repealing § 1 of the 3 and 4 Vict., cap. 54, by which the Secretary of State was required to remove a prisoner under sentence of death to a lunatic asylum under the signatures of two magistrates and two medical men; it is enacted by § 2 of the present Act that on any prisoner appearing to become insane during imprisonment, or while undergoing penal servitude, or under any confinement other than on civil process, any two justices may call in the aid of two qualified medical practitioners to inquire respecting such insanity, and if certified by the medical examiners and the justices that any such prisoner is insane, the Secretary of State may grant a warrant for the removal to such lunatic asylum as he may appoint. If the Secretary of State has reason to believe any prisoner in confinement, under sentence of death, to be insane, he may appoint two qualified persons to inquire into the same: if the certificate declares the prisoner to be insane, he is to be removed to such asylum for lunatics as the Secretary may direct, there to remain until it be certified that such person has become sane; the Secretary is then authorised to issue a warrant for the discharge of such person if the period of imprisonment or custody has expired, or for the removal to any prison to undergo the sentence of death or other punishment to which he or she might be subject as if no warrant for removal to a lunatic asylum had been issued. By § 3 directors of Convict Prisons are to be deemed visiting justices; the provisions of previous Acts relating to Criminal Lunatics (§ 4) not hereby repealed, are to apply to this Act; the charge and maintenance of insane prisoners (§ 5) are to be borne by the common fund of the Union; the power of overseers to appeal against any order of the justices adjudicating as to settlement of insane person is taken away by § 6; and § 7 confines the operation of the Act to England and Wales.

BEERHOUSES, IRELAND.

[27 and 28 Victoriæ, cap. 35.—June 30, 1864.]

An Act for more effectually regulating the Sale of Beer in Ireland.

This Act, which came into operation on July 1, 1864, provides that excise officers are not to grant licences or renewal of licences for the sale of beer by retail, to be drunk or consumed elsewhere than on the premises where sold, unless the person applying have the certificate of two justices as to the good character of such applicant, and the suitability of the premises for the purposes of such sale; persons applying for such certificate must give previous notice of the intention to the principal police officer of the district, who may object to the granting of such licence before the justices, the said justices being empowered to examine witnesses upon oath as to the validity of such objection. The prohibitions with respect to the hours in which houses for the sale of wine, beer, spirits, &c., to be drunk on the premises, may not be kept open, are to extend to houses licensed under this Act, and the like fines and forfeitures for transgression are to be inflicted and recovered in like manner. The penalty for selling beer for consumption on the premises is, for the first offence, a fine not exceeding 40*s.* nor less than 5*s.*, or imprisonment for a term not exceeding a month; for subsequent offences, a fine not exceeding 5*l.* nor less than 20*s.*, or imprisonment for a term not exceeding three months nor less than one month; and the penalty for persons found tippling in houses not licensed for the sale of beer to be drunk on the premises, is a fine not exceeding 5*s.* for the first offence, and for every subsequent one not exceeding 10*s.* nor less than 5*s.* On any complaint against the holder of a licence, the justices may require the production of the licence, and refusing or neglecting to produce it subjects the offender to a fine not exceeding 5*l.*; but the justices have power to mitigate any of the penalties imposed, but not to less than one-fourth, and the cause of mitigation must be set forth on the conviction. Wholesale dealers in beer who shall keep open their premises for the sale of beer between seven o'clock in the evening and seven in the morning, are subjected to the like supervision of the police as retail houses. An appeal to the Quarter Sessions is allowed in case of either granting or refusing a certificate; but where the grant of a certificate has been reversed, the license is to be annulled. Persons duly licensed to brew, paying duty on not less than 100 barrels, are not required to obtain a certificate; nor persons licensed to sell beer in casks of not less than four and a-half gallons, or in bottles of not less than two dozen quarts at one time; nor dealers duly licensed to sell coffee, tea, cocoa, chocolate, or pepper. The sale of any quantity at one time, less than four and a half gallons or two dozen quart bottles, constitutes a retailer.

CHIMNEY SWEEPERS' REGULATIONS.

[27 and 28 Victoriæ, cap. 37.—June 30, 1864.]

An Act to extend and amend the Act for the Regulation of Chimney Sweepers.

Referring to the principal Act (3 and 4 Vict., cap. 85) with which this is to be construed, it is enacted that no child under ten years of age shall be employed in any work or thing in or about the business of a chimney-sweeper elsewhere than within the house or yard of such

chimney-sweeper; and no chimney-sweeper entering a house to sweep chimneys, or to extinguish a fire, &c., is to bring with him, or send before, or allow to come after, any person under the age of sixteen; the penalty for any of these offences is any sum imposed by the justices not exceeding 10*l*. When, under § 2 of the principal Act, a chimney-sweeper is convicted of compelling or allowing a person under the age of twenty-one to enter a chimney or flue, he may be adjudged to imprisonment, with or without hard labour, for any term not exceeding six months. The proof of the age of any young person or child, where it comes into question, must be supplied by the defendant. The Act is to take effect from November 1, 1864.

UNION ASSESSMENT COMMITTEE ACT AMENDMENT.

[27 and 28 Victoriæ, cap. 39.—July 14, 1864.]

An Act to amend the Union Assessment Committee Act (1862).

By § 1, before any appeal can be heard against a poor-rate at Quarter Sessions, the appellant must give twenty-one days' notice in writing, with the grounds of the appeal, to the Assessment Committee; and no appeal is allowed against a poor-rate made in conformity with the valuation list approved by the Committee, unless the objection has been made, and notice given, prior to August 1, 1864, and the applicant has failed to obtain such relief as he deems just; the objection is to be heard in the prescribed manner by the Committee, who may amend the list, of which amendment the overseers are to have notice and are to act upon. The Committee (§ 2), with consent of the Guardians, may be made co-respondents in any such appeal, with the same liabilities, and entitled to the same remedies, as in the case of persons other than overseers, to whom notice of appeal may be given. The costs which the Committee may incur as respondents (§ 3), if not recovered from the appellants, as well as any costs they may be ordered to pay the appellants, are to be charged to the common fund of the Union, unless the Court shall otherwise direct. Where a valuer is appointed by the Committee (§ 4), he is to make his valuations in writing, showing the particulars of the several hereditaments, the amounts at which he has valued them; the valuations to be open to inspection in like manner, and with the same provisions as to taking copies or extracts, as the Minute Book of the Committee. Within fourteen days of the reception of a valuation, or supplemental valuation list, the Committee (§ 5) are to give notice to every Railway, Gas, Water, or other Company, of the sum or sums set down as the rateable value of the property purporting to be occupied by them, the notices to be valid if transmitted through the post to the principal office of the Company. Justices (§ 6) are not disqualified from hearing appeals on account of being rated in some other parish in the Union than that for which the rate is appealed against. The expenses of overseers in making out the valuation lists, incurred by consent of the vestry, or allowed by the Assessment Committee, may (§ 7) be charged on the poor rates. If the Assessment Committee (§ 8) order a valuation, the Guardians, on receiving the consent of the Poor Law Board, may borrow money to defray the expenses; such sum to be charged on the poor rates, to be discharged by not more than five equal payments. The clerk of every Assessment Committee (§ 9) is to furnish annually, in the month of December, the gross estimated rental, and the rateable value of the parishes within

the Union, to the Clerk of the Peace to the county. If there be no map or plan of any parish sufficient for the purposes of the Assessment Committee, a map may be ordered (§ 10), with consent of the Guardians, and the expense be charged to the common fund or the parish as the Poor Law Board may direct. Overseers (§ 11) omitting to make the declarations required by the Act of 1862, are liable to a penalty not exceeding 5*l*. The provisions of the Act of 1862 (§ 12) are incorporated with this, and the short title (§ 13) is, "The Union Assessment Committee Amendment Act, 1864."

SUPERANNUATIONS TO UNION OFFICERS.

[27 and 28 Victoriæ, cap. 42.—July 14, 1864.]

An Act to provide for Superannuation Allowances to Officers of Unions and Parishes.

By § 1 power is given to Guardians and Trustees, with the consent of the Poor Law Board, to grant at their discretion superannuation allowances to any officer whose whole time has been devoted to the service of the union or parish, who shall become incapable of discharging his duties with efficiency, by reason of permanent infirmity of mind or body, or of old age, on resigning or otherwise ceasing to hold office; such allowance not to exceed in any case more than two-thirds of his then salary, whether computed according to a fixed sum or a poundage; the allowance to be charged on the same fund from which his previous salary had been drawn. Such allowance (§ 2) not to be assignable nor chargeable with his liabilities. No officer (§ 3) to be entitled to such allowance on the score of age who is less than sixty, and who has not served some parish or union for twenty years at least. One month's notice (§ 4) must be given to every Guardian or Trustee of the intended proposal to make such grant, and of the time when it is to be brought forward.

GOVERNMENT ANNUITIES.

[27 and 28 Victoriæ, cap. 43.—July 14, 1864.]

An Act to grant additional Facilities for the Purchase of small Government Annuities, and for assuring Payments of Money on Deaths.

The preamble recites that by the 16 and 17 Vict., cap. 45, deferred annuities of small amounts can only be granted upon the condition that the full amount required to purchase such annuities be paid in one sum, or by annual payments during a course of years, fixed at the time of purchase. It also recites that under the same Act contracts for payment of a sum of money on death cannot be entered into except on the condition that the party contracting for such payment on death at the time purchase a deferred annuity on his life. The law is now altered, and it is enacted that deferred annuities (§ 1) may be granted on the conditions to be fixed at the time of purchase, and that the sum required to purchase the annuity be payable in smaller instalments and at shorter periods than before. By the former Act, 30*l*. was the limit of the annuities, but they may now (§ 2) extend to 50*l*. The section requiring a deferred annuity to be purchased of the National Debt Commissioners is now (§ 3) repealed in part. No contract (§ 4) for a payment on death is to be entered into by or on behalf of any person under the age of

sixteen or over sixty. No contract (§ 5) to be made for more than 100*l.*, or for less than 20*l.* Fresh tables (§ 6) are to be constructed; and until the tables made in pursuance of this Act can be legally acted on, it is not to come into force (§ 7) so far as to enable any grant to be made of an insurance, or any grant of an annuity, the consideration money for which is paid by instalments more frequent than annual instalments. By § 8 it is provided that on a life policy, after the payments of the premiums for five years, a person, on surrendering the same, is not to receive less than one-third of the payments made, or may have granted to him a paid-up policy on such an immediate or deferred life annuity. Purchasers (§ 9) are liable to the provisions of the existing Savings Bank Acts. Jurisdiction is given (§ 10) to the County Courts on the Commissioners of the National Debt refusing payment; in Scotland, the Sheriff's Court, and in Ireland, the Civil Bills Court of Quarter Session, to have the like jurisdiction. Contracts (§ 11) may be assigned. The Commissioners (§ 12) are not to be affected by notices of trusts. The National Debt Commissioners (§ 13) are to regulate the payments by instalments, and they are at no time to be less in amount than 2*s.* The Postmaster-General, with the consent of the Treasury, may (§ 17) authorise his officers to receive money under this Act, and regulations may be made (§ 15) by the Post-office to carry out the provisions and grant annuities. The Commissioners (§ 15) may also empower the Trustees of Savings Banks to receive moneys payable upon contracts entered into under this Act, and to pay such sums as may become due, for which a reasonable remuneration is to be made to them. The accounts under this Act are (§ 17) to be submitted to the Public Audit Commissioners.

DIVORCE AND MATRIMONIAL CAUSES AMENDMENT ACT.

[27 and 28 Victoriæ, cap. 44.—July 14, 1864.]

An Act to amend the Act relating to Divorce and Matrimonial Causes, 20 *and* 21 *Vict. cap.* 85.

The one clause of this Act provides that where a wife has obtained a protecting order for her earnings or property from a police magistrate or a justice of peace, or from the Divorce Court, and the husband or creditor may have applied for the discharge of such order, should the magistrate who made the order have been removed, or died, or have become incapable of acting, the successor of such magistrate is authorised to issue an order for the discharge of the order of protection; and a protecting order made at one petty sessions may be discharged by the justices of any later petty sessions, or by the Court.

LIFE ANNUITIES AND LIFE ASSURANCES.

[27 and 28 Victoriæ, cap. 46.—July 14, 1864.]

An Act to provide for the Investment and Appropriation of all Moneys received by the Commissioners for the Reduction of the National Debt on account of Deferred Life Annuities, and Payments to be made on Death.

All moneys (§ 1) received by the Commissioners for the reduction of the National Debt on account of Life Annuities and for Payments on

Death, are to be invested in such and the like securities as authorised on account of Savings Banks; and the Commissioners of the Treasury may, from time to time, convert any capital stock of annuities into an equivalent amount of terminable annuities payable out of the Consolidated Fund; copies of the authorities under which the conversion shall have been made are to be laid before both Houses of Parliament. An account of all moneys received and of the disposal thereof, in the year ending with December, are (§ 2) to be laid before Parliament not later than March 31, and are to show:—

The amount of receipts during the year on contracts:
The number and amount of payments made on account of contracts during the year;
The amount of expenses during the year;
The number and amount of new contracts entered into;
The total number and amount of all current contracts at the end of the year;
The whole amount of capital, distinguishing the manner in which invested, how much in cash, how much in securities, specifying their nature;
The average rate of interest received upon each class of investment;
The table of mortality and the rate of interest used in calculating the premiums.

At the end of every five years (§ 3) the Commissioners for the Reduction of the National Debt are to transmit to the Treasury a statement of the financial results of the engagements and liabilities; if the liabilities exceed the assets, the deficiency is to be charged on the Consolidated Fund; and if the assets exceed the liabilities, the Treasury shall direct an amount not exceeding four-fifths of such surplus to be cancelled out of the National Debt. The Treasury (§ 4) in cases of deficiency are to issue such sums as may be necessary to meet the liabilities.

PENAL SERVITUDE ACTS AMENDMENT.

[27 and 28 Victoriæ, cap. 47.—July 25, 1864.]

An Act to amend the Penal Servitude Acts.

The present Act (§ 1) is to be construed with and considered as one with the previous Acts of 16 and 17 Vict. cap. 99, and 20 and 21 Vict. cap. 3, each to be cited as the Penal Servitude Act of the year in which it was passed. By § 2 it is provided that henceforth no person shall be sentenced to penal servitude in respect to any offence committed after the passing of this Act for a period of less than five years, and where any previous Act may direct a period of less than five years for any offence the longer period is thenceforth to be substituted; and where any previous conviction for felony has taken place, the least sentence of penal servitude must be for seven years. The Secretary of State (§ 3) may empower justices acting for a county in which a convict prison is situated to order the infliction of corporal punishment on convicts committing offences within the prison. Licences (§ 4) are to be granted in a prescribed form, on which the conditions are endorsed, but the holder must report himself to the police or constabulary station of the locality to which he removes, within three days after his arrival; and in the same way on every change of residence, which he must notify previously

to the police-station; and if the licence-holder be a male, once in each month ever afterwards. The conditions endorsed on the licence are—1. That the holder shall preserve it and produce it when called upon by a magistrate or police officer; 2, that he shall abstain from any violation of the law; 3, that he shall not habitually associate with notoriously bad characters; 4, that he shall not lead an idle and dissolute life, without visible means of obtaining an honest livelihood; any breach of these conditions forfeits the licence; and (§ 5) if accompanied by any act not punishable upon indictment or summary conviction, subjects him to imprisonment for any period not exceeding three months, with or without hard labour; if upon conviction for any crime, he will also be liable to imprisonment for any term of penal servitude that may be then unexpired. Any constable or police officer (§ 6) may apprehend without a warrant any licence-holder reasonably suspected of a breach of the conditions. Offences under this Act (§ 7) may be prosecuted summarily before two or more justices in England and Ireland, and the sheriff substitute or burgh magistrates in Scotland. Where the holder of a licence (§ 8) is summarily convicted, the magistrate convicting is to forward a certificate to the Secretary of State in England or Scotland, or to the Lord Lieutenant of Ireland. Where a licence (§ 9) is forfeited by conviction upon an indictable offence, or revoked upon a summary conviction, the offender, after undergoing the punishment inflicted for the offence, will further undergo a term of penal servitude equal to that unexpired at the time of the licence being granted, and may be removed for that purpose to any convict prison under a warrant of a justice of the peace. § 10 merely provides that the Lord Lieutenant of Ireland may grant licences in a form different from that prescribed in the schedule.

FACTORY ACTS EXTENSION.

[27 and 28 Victoriæ, cap. 48.—July 25, 1864.]

An Act for the Extension of the Factory Acts.

The provisions of the previous factory Acts are extended to—

The manufacture of earthenware, except bricks and tiles, not being ornamental tiles.
The manufacture of lucifer matches.
The manufacture of percussion caps.
The manufacture of cartridges.
The employment of paper staining.
The employment of fustian cutting.

It also provides that factories shall be well cleansed and ventilated; that special rules for the regulation of workmen may be framed, subject to the approval of the inspector; and penalties are imposed for infraction. For six months after the passing of the Act, children of not less than eleven years of age, and for thirty months of not less than twelve, may be employed in the factories above named on the same conditions as young persons not less than thirteen are now employed under the Factory Acts; but where lucifer matches are made, no child, young person, or woman, is to be allowed to take any meal in any part of the factory where any process is carried on, except that of cutting wood; in fustian cutting no child is allowed to commence work if under eleven years of age; there are provisions against taking meals, for the white-washing and painting of buildings, and for the recovery and application of penalties.

STREET MUSIC, METROPOLIS.

[27 and 28 Victoriæ, cap. 55.—July 25, 1864.]

An Act for the better Regulation of Street Music within the Metropolitan Police District.

By this Act any householder, personally or by his servant, or by a police constable, may require any street musician or street singer to depart on account of the illness, the interruption of occupation, or any other reasonable cause; persistence in going on playing after such order subjects the offender to a fine not exceeding 40*s.* or imprisonment not exceeding three days; the police may take an offender into custody without a warrant; but the person making the charge must accompany the constable to the station-house, and sign the charge; and if the police court be not open at the time must enter into a recognizance to appear, and on refusal to do so the person in custody is to be discharged.

INLAND REVENUE.—STAMP DUTIES.

[27 and 28 Victoriæ, cap, 56.—July 25, 1864.]

An Act for granting to Her Majesty certain Stamp Duties, and to amend the Laws relating to the Revenue.

Re-assurances and sea-risks are by § 1 rendered valid, and on proof of prior assurance the stamp of the re-assurance is to be allowed as in cases of spoiled stamps. Bills of exchange (§ 2) payable on demand and endorsed abroad, are to be deemed foreign bills, and chargeable as an inland bill of exchange payable otherwise than on demand. On letters or powers of attorney (§ 3) for the receipt of dividends or interest in the public funds, or of any company or society, if for the receipt of one payment only, there is imposed a duty of 1*s.*; and if for more than one payment or the continuous receipt, 5*s.* The stamp duties on probates, letters of administration, inventories, &c. (§ 4) are to extend to the value of the whole or any share in British ships at sea. No stamp duty (§ 5) in any case where the whole value of the estate does not exceed 100*l.* From July 1, 1864, the stamp duties on the licences of appraisers, pawnbrokers, dealers in gold and silver plate, proprietors and vendors of patent medicines, hawkers and pedlars, house agents, and makers or sellers of playing-cards are (§ 6) thenceforth to be excise duties. A hawker's licence (§ 7) may be renewed on production of a previous licence. Brewers' licences (§ 8) are to expire on Sept. 30, on and after Sept., 1864. In Ireland (§ 9) the prohibition of brewers holding a licence to sell beer, spirits, or cider by retail, is repealed; and the provisions in force relating to brewers in Great Britain are, by § 10, extended to Ireland. Maltsters (§ 11) are forbidden to alter couch-frames after entry without giving notice to the supervisor. Tobacco licences, taken out by keepers of inns in Scotland (§ 12), are to expire on the same day as the licence for exciseable liquors, which is May 15; and tobacco licences, granted to persons who retail beer not to be consumed on the premises, are to expire on Oct. 10. Auctioneers (§ 14) are not to deal in or sell excisable commodities, except upon licensed premises; but the Commissioners of Inland Revenue may authorise the sale, when satisfied that the commodities are the property of a private person. In Scotland and Ireland (§ 15) postage stamps may be received in payment of taxes,

and in Scotland (§ 19) they may be paid by post office orders. Barristers in England or Ireland (§ 16) may be admitted in the other part of the United Kingdom on payment of a stamp duty of 10*l.* only; and the sum so payable in Ireland (§ 17) is to be paid direct to the treasurer of the King's Inns instead of the Exchequer as heretofore. By § 18 the provisions of former Revenue Acts are to apply to this.

PUBLIC AND REFRESHMENT HOUSES.

[27 and 28 Victoriæ, cap 64.—July 25, 1864.]

An Act for further regulating the Closing of Public Houses and Refreshment Houses within the Metropolitan Police District, the City of London, certain Corporate Boroughs, and other Places.

By § 1 the short title of the Act is declared to be the Public House Closing Act, 1864; to be in force (§ 2) only within the limits of the Metropolitan Police District, the city of London and its liberties, and such corporate boroughs and districts of Improvement Commissioners as may adopt the same; which boroughs and districts are defined in § 3, and the meaning of 'refreshment houses' is defined in § 4. No licensed victualler (§ 5), and no keeper of a refreshment house, shall sell or expose for sale exciseable liquors, or any article whatsoever, between the hours of one and four o'clock in the morning, under a penalty of any sum not exceeding 5*l.*, to be recovered in a summary manner; but exemption is made for articles supplied to any one residing in the house. The Act (§ 6) is to apply to free vintners as if they were licensed victuallers. Occasional licences (§ 7) may be granted for special purposes to licensed victuallers or keepers of refreshment houses on application to the local authorities, exempting them from the penalties of this Act, during certain hours, and on a special occasion or occasions; and the local authorities are defined to be (§ 8) the Commissioners of Police for the Metropolis, subject to the approbation of the Secretary of State in the Metropolitan Police District; the Commissioners of the city police, with the approbation of the Lord Mayor for the city of London; the chief officer of police, with the approbation of the mayor in any borough where the Act has been adopted; and the chief officer of police, with the approbation of the chairman of the commissioners in any district of Improvement Commissioners. Corporate boroughs, or boards of Improvement Commissioners, may (§ 9) adopt this Act by resolution at a meeting assembled for the purpose. Notice of its adoption is to be given to the Secretary of State. It is to come into operation one month after the passing of the resolution; and no objection can be made to the adoption of the resolution after the expiration of three months from the passing of the same. Sales at railway stations (§ 10) of exciseable liquors or refreshments, to passengers arriving at or departing from the same between the hours of one and four, are declared to be exempted.

INCLOSURE ACT, No. 2.

[27 and 28 Victoriæ, cap. 66.—July 25, 1864.]

An Act to authorise the Inclosure of certain Lands, in pursuance of a Special Report of the Inclosure Commissioners.

This Act authorises the inclosure, sanctioned by the Inclosure Commissioners, of the following 25 places, viz., in *Cambridgeshire*—Eltisley.

Cheshire—Faddiley. *Derbyshire*—Siddal's Close and Chequer's Close. *Devonshire*—Comb Martin; Rose Ash. *Dorsetshire*—Haydon Common. *Durham*—Ruffside. *Gloucestershire*—Rudford. *Hampshire*—Ashley Heath; Avon Commons; Eversley; Havant. *Huntingdonshire*—Great Gidding. *Kent*—Barming Heath. *Lancashire*—Greystone Heath and Doc Green. *Norfolk*—Billingsford Cow Common. *Northumberland*—Hartleyburn; Lambley; Rochester Common. *Oxfordshire*—Shiplake. *Radnorshire*—Whitton. *Somersetshire*—Dunster Salt Marsh. *Staffordshire*—Rugeley. *Westmoreland*—Hillbeck Intake. *Yorkshire.*—Leake.

TRESPASS, IRELAND.

[27 and 28 Victoriæ, cap. 67.—July 25, 1864.]

An Act to amend the Law in certain Cases relating to Trespasses in pursuit of Game.

This Act applies to Ireland only, and provides that the landlord or lessor of land, having reserved the right to game, is to be considered the legal occupier; and any person entering on such lands without his consent, is to be deemed a trespasser, and subject to the penalties for such offences.

TURNPIKE ACTS CONTINUANCE, &c.

[27 and 28 Victoriæ, cap. 75.—July 29, 1864.]

An Act to amend the Law relating to certain Nuisances on Turnpike Roads, and to continue certain Turnpike Acts in Great Britain.

By the first clause it is enacted that no steam-engine, or other like machine, be erected or used within twenty-five yards of any turnpike road, unless enclosed within some building, or behind some wall or fence, sufficient to screen it so as not to be dangerous to passengers, horses, or cattle. Persons offending are liable to a penalty not exceeding 5*l.* per day during its continuance, the penalty to be recovered as other penalties under turnpike acts; but no penalty is incurred for locomotive engines travelling according to law on any road. The remainder of the Act is for continuing or limiting a great number of other Turnpike Acts.

BANK NOTES SIGNATURES.

[27 and 28 Victoriæ, cap. 78.—July 29, 1864.]

An Act for impressing by Machinery Signatures of Names on Bank Notes and certain Bills of the Bank of Ireland.

A short Act, merely giving power to the Governor and Company of the Bank of Ireland to authorise the impressing by machinery the name or names of appointed persons as signatures to bank notes, bank post bills, and bank bills of exchange; and enacting that such signatures shall be valid, and the notes so signed to be described in criminal or civil proceedings as the notes or bills of the Bank of Ireland.

CONTAGIOUS DISEASES.

[27 and 28 Victoriæ, cap. 85.—July 25, 1864.]

An Act for the Prevention of Contagious Diseases at certain Naval and Military Stations.

For this purpose certified hospitals are to be established within a certain distance of the following places;—Portsmouth, Plymouth, Woolwich, Chatham, Sheerness, Aldershot (this includes 23 parishes), Colchester, Shorncliffe, in England; and the Curragh, Cork and Queenstown, in Ireland. An inspector of hospitals is to be appointed for each place. After a declaration made before a magistrate, a woman may be compelled to appear before the medical officer, who, if the accusation be established, is to commit her to the hospital for a period not exceeding three months, or until her cure is effected. Insubordination or refusal to be examined is punishable with imprisonment; and keepers of houses of ill-fame who knowingly harbour any such woman are subject to a pecuniary fine. The Act is not to come into operation until after a hospital has been established, and the expenses are to be defrayed by the Admiralty Board and the Secretary of the War Department.

BANK POST BILLS, IRELAND.

[27 and 28 Victoriæ, cap. 86.—July 29, 1864.]

An Act to permit for a limited Period Compositions for Stamp Duties on Bank Post Bills of Five Pounds and upwards in Ireland.

The Treasury, by this Act, is empowered to compound with bankers, as is now done in Scotland, for the stamp duty on bank post bills, on the like terms and conditions, and with such security as the Commissioners are empowered to require in Scotland. The Act is for a period of three years.

CORN ACCOUNTS AND RETURNS.

[27 and 28 Victoriæ, cap. 87.—July 29, 1864.]

An Act to amend the Laws relating to the Publication of Accounts of Corn imported, and the Returns of Purchases and Sales of Corn.

Repealing portions of the old Acts relating to returns, it is enacted that after Dec. 31, 1864, the returns are to be published weekly only in the *London Gazette*, and a schedule gives a list of the markets from which the returns are to be made in the aggregate, and not from any particular cities or towns.

WESTMINSTER BRIDGE TRAFFIC.

[27 and 28 Victoriæ, cap. 88.—July 29, 1864.]

An Act for the better Regulation of the Traffic on Westminster Bridge and for the Prevention of Obstructions thereon.

The Commissioners of her Majesty's Board of Works are empowered to make bye-laws and rules "for regulating the particular portions of Westminster Bridge and its approaches to be used by all or any public or private carriages, carts, drays, waggons, or other vehicles, or for prevent-

ing obstructions on the said bridge or its approaches." The penalty for contravening such orders is not to exceed 40*s.* for each offence, to be recovered by summary process; but no order to come into force until fourteen days after it has been announced in the *London Gazette* and in one or more of the London daily newspapers.

POWERS OF ATTORNEY.

[27 and 28 Victoriæ, cap. 90.—July 29, 1864.]

An Act to amend an Act of the present Session, cap. 18, *as to the Stamp Duties on certain Letters or Powers of Attorney.*

Letters or powers of attorney for the sale, transfer, or acceptance of any of the parliamentary or Government stocks or funds, duly stamped, are to be chargeable with no other stamp duty by reason of its containing any authority for the receipt of dividends; and letters, merely requiring the treasurer or other officer of joint-stock or other companies, or any bankers, to pay the dividends or interest to the person named in the letter, are not to be chargeable as letters or powers of attorney.

NAVAL AND VICTUALLING STORES.

[27 and 28 Victoriæ, cap. 91.—July 29, 1864.]

An Act for the more effectual Protection of her Majesty's Naval and Victualling Stores.

The stores are to be marked according to a schedule; hempen cordage and wire-rope by white, black, or coloured worsted threads laid up with the yarn or wire respectively; canvas, fearnought, hammocks, and seamen's bags, by a blue line in a serpentine form; bunting, by a double tape in the warp; candles by blue or red cotton threads in each wick or wicks of red cotton; timber, metal, and other stores not before enumerated, by the broad arrow. To imitate these marks is a misdemeanour, punishable with imprisonment for any term not exceeding two years; obliterating such marks, by the like imprisonment, or by penal servitude for any period not exceeding four years. [Cap. 47 enacts that no sentence of less than five years shall be passed]; and knowingly receiving such stores is punishable by imprisonment for any term not exceeding one year. In all cases the knowledge is to be presumed against the defenders, unless satisfactorily disproved, and the disproof to lie with the defenders. No unauthorised person to creep or sweep in the sea or any tidal waters for stores within a hundred yards of dockyards, or of her Majesty's ships, or of any mooring place, under a penalty of 5*l.* or three months' imprisonment. None but the Admiralty can prosecute, and the penalties are to be paid or applied as the Admiralty may direct.

PUBLIC SCHOOLS.

[27 and 28 Victoriæ, cap. 92.—July 29, 1864.]

An Act for annexing Conditions to the Appointment of Persons to offices in the governing Bodies of certain Public Schools and Colleges.

All such appointments to the public schools of Eton, Winchester, Westminster, the Charterhouse, St. Paul's, Merchant Taylors, Harrow, Rugby, and Shrewsbury, are to be made "subject to such provisions and regulations as may hereafter be enacted respecting the same."

SCOTTISH EPISCOPAL CLERGY DISABILITIES.

[27 and 28 Victoriæ, cap. 94.—July 29, 1864.]

An Act to remove Disabilities affecting the Bishops and Clergy of the Protestant Episcopal Church in Scotland.

The first clause of this Act repeals § 9 of the 32 Geo. 3, cap. 63, which enacted that "no person exercising the function or assuming the office and character of a pastor or minister of any order in the episcopal communion in Scotland, shall be capable of taking any benefice, curacy, or other spiritual promotion within that part of Great Britain called England, the dominion of Wales, or the town of Berwick-upon-Tweed, or of officiating in any church or chapel within the same, where the liturgy of the Church of England as now by law established is used, unless he shall have been lawfully ordained by some bishop of the Church of England or of Ireland." The disability is removed, recognising the ordination of a Scottish Episcopal bishop, but persons so admitted into holy orders are yet (§ 5) not to be admitted to benefices or any ecclesiastical preferment without the consent of the bishop of the diocese, who may refuse his consent without being required to assign any reason. Persons officiating on more than one day within a period of three months, without the consent of the bishop, are liable to a penalty of 10*l.*

ACCIDENTS COMPENSATION ACTS AMENDMENT.

[27 and 28 Victoriæ, cap. 95.—July 29, 1864.]

An Act to amend the Act 9 *and* 10 *Vict. cap.* 93, *for compensating the Families of Persons killed by Accident.*

As the previous Act required that the action for compensation should be brought by the executor or administrator of the person deceased, and as it often occurs that there is no executor or administrator, or if there be that they do not commence an action, § 1 of this Act provides that where no action is brought within six months after the death of the person killed, it may be brought by any person or persons beneficially interested in the result of the action, such action to be for the benefit of the same persons and subject to the same regulations as if brought by an executor. When the jury in awarding damages state the way in which they are to be divided among the parties for whose benefit the action was brought, the defendant may pay the money into Court in one sum without regard to its division into shares; and if the sum be not accepted, and an issue be taken by the plaintiff as to its sufficiency, the defendant is entitled to a verdict on that issue.

BURIALS REGISTRATION.

[27 and 28 Victoriæ, cap. 97.—July 29, 1864.]

An Act to make further Provision for the Registration of Burials in England.

By § 1 it is enacted that "all burials in any burial ground in England which are not now by law required to be registered, shall be registered in register-books to be provided for each such burial ground by the company, body, or person to whom the same belongs," and they are to be kept (§2) by some officer appointed by the company or person to whom the burial

ground belongs. Copies of the registers (§ 3) are to be sent periodically to the registrar of the diocese; and a penalty not exceeding 5*l.* is incurred (§ 4) for every failure or neglect in complying with the provisions of the Act. The register-book (§ 5) or copies or extracts are to be received in all courts as evidence of the burials, and are to be kept (§ 6) subject to the regulations of 6 and 7 Wm. 4, cap. 86, as to searches, copies, extracts, &c. The term burial ground (§ 7) includes a vault or other place where a body is buried.

BLEACHING AND DYEING WORKS.

[27 and 28 Victoriæ, cap. 98.—July 29, 1864.]

An Act for extending the Provisions of the Bleaching and Dyeing Works Act, 1860.

After the passing of this Act, the provisions of the former Act are to apply to "women, young persons, and children, employed for hire in any building or premises whatever in the processes of finishing, hooking, or tapping, or of making-up and packing any yarn or cloth of cotton, wool, silk, or flax, or any of them, or any mixture of them, or any yarn or cloth of any other material or materials, or any of such processes," in "any building or premises in which the said processes, or any of them, are carried on." The Act, however, does not apply to buildings or premises in which all the persons employed are males above the age of fourteen. In buildings or premises within the meaning of this Act, the owner, after notice given to the inspector, may fix the hours of working, so as it be between the hours of 6 a.m. and 6 p.m., or 7 a.m. and 7 p.m., or 8 a.m. and 8 p.m.

HIGHWAYS ACT AMENDMENT.

[27 and 28 Victoriæ, cap. 101.—July 29, 1864.]

An Act to amend the Act for the better Management of Highways in England.

This Act consists of 53 clauses. The first three contain the short title, a provision for its being construed with the Act of 1862, and a definition of terms; by § 4 it is provided that, where any order of the justices comprises more than one parish or place, in which some of the orders are provisional and some final, the provisional order or orders shall be confined to the place or places mentioned as if they were separate orders. Any parish or place (§ 5) having a known legal boundary, in which there are no highways, or where they are maintained at the expense of any person, or corporate body, or from funds other than a highway rate, or where repairable out of a rate other than a highway rate, is to be deemed a place separately maintaining its own highways, and where a part of a parish has been included in a local government district for purposes connected with the repairs of highways only, it may be included in a highway district without the consent of the Local Board. Where only part of a county (§ 6) is proposed to be divided into a highway district, two of the five justices required must be resident within the district, "or acting in the petty sessional division." By § 7, the power of the justices in forming combinations of places into highway parishes is extended, and such parishes are entitled to elect and send a waywarden to the Highway District Board. The outlying parts of a parish (§ 8) not included within the limits of a borough, may be formed

into a highway parish, and send a waywarden to the Board. In extra-parochial places (§ 9) the justices in Petty Sessions may appoint overseers for the purpose of constituting it a highway parish, or part of such parish, as they may deem fit. The time of the first meeting of the Highway Board is to be fixed (§ 10) by the justices, and the surveyor for the time being is to continue in office for seven days after such meeting, and no longer; and the justices (§ 11) may fix the day on which waywardens and members of the Board are to be elected, but they are to hold office only until the usual annual time for electing surveyors, when new waywardens are to be elected. The publication of the order in the *London Gazette* is made permissive (§ 12), and a copy of the order, certified under the hand of the justice's clerk, is to be received as legal evidence of the formation of a district. Contiguous places in different counties (§ 13) may be united into a district by the justices of any one county, subject to the concurrence of the justices of the other county or counties; and their approval (§ 14) is to be testified by the justices of the first-mentioned county. After the formation of a highway district (§ 15) if any parish apply to the General or Quarter Sessions to be removed from one district to another, the costs of the application and removal are to be paid by the parish applying, the amount to be raised as for a highway rate. No order of the justices is to be void (§ 16) on account of their having included a place in any highway district which they were not empowered to include, but the order is to take effect as if such prohibited place had not been mentioned; and expenses incurred by the justices in maintaining the validity of their order are to be defrayed from the county rate. The powers and jurisdiction vested in the justices by the Act of 1862 (§ 17) are continued by this; and provisional or final orders (§ 18) are defined as in the previous Act. Every waywarden (§ 19), before taking his seat at a Highway Board, must produce a certificate of his election; he may sit for more places than one, but is only entitled to one vote; and he may contract (§ 20) for the supply of materials, or for cartage, with the licence of two justices. An unnecessary highway (§ 21) may be abandoned, on the representation of a Highway Board, after being viewed by two justices, but the liability to maintain it may be revived on showing, at a Court of Quarter Sessions, that it has become of public use. A Highway Board (§ 22) may contract for the repair of highways or roads for which other persons or bodies are liable, but only for a term not exceeding three years. §§ 23 and 24 contain merely verbal alterations of the Act of 1862, to adapt it to the present. By § 25 it is enacted that cattle found straying on highways shall subject the owners to a penalty not exceeding 5*s.* for each animal so found, with reasonable expenses for removing it to the premises of the owner; or it may be pounded, but the penalty is not to exceed 30*s.* beyond the expenses; and the clause is not to be understood as taking away the right of pasturage which may exist on the sides of any highway. Notices issued by a Highway Board (§ 26) may be delivered personally, or left at the usual abode, or sent by post prepaid, to the parties required to be served, and it is sufficient to serve such notice on any one of the overseers or waywardens of a parish. The schedule of the Act of 1862, regulating the proceedings of Highway Boards, is repealed by § 27, and a new schedule is substituted; and § 28 only repeals the amount of a penalty. The qualifications of an ex-officio waywarden are prescribed in § 29, limiting justices who are entitled to sit for more than one Highway Board in a county, to select one, for which alone he is to act. The appointment of officers (§ 30) is to be made by minute of the Board, signed by the

chairman, and countersigned by the clerk; and the Board (§ 31) is empowered to appoint paid collectors of the highway rate, with consent of the vestry, in place of the surveyor or waywarden. The clauses 32 to 35 relate to the means of carrying the Act into effect; the cost is to be raised by a separate rate on rateable property of each parish, according to the valuation used for the collection of the poor rate; the rate must be announced as with the poor rate; it must not exceed tenpence in the pound at any one time, nor more than 2*s.* in any one year; and it may be enforced in like manner with the poor rate. The accounts (§ 36) are to be made up and balanced within 28 days at most of December 31 in every year; a paid auditor may be appointed, and, within 30 days after the accounts have received the signature of the chairman, a statement of the receipts and expenditure is to be published, and a copy furnished to any ratepayer at a charge of not more than a penny. §§ 37 to 44 relate to proceedings in cases of appeal. If the Highway Board neglect to appoint officers for three months after the day fixed for the first meeting, the justices, at Quarter Session (§ 45), may appoint such officers, the appointment to be valid, and the Board may not remove such officer or lessen his salary without the consent of the justices within one year from the date of his appointment. Justices in Petty Sessions (§ 46) may exercise any jurisdiction which they are authorised to exercise in special sessions, and no justice to be disabled from acting on the ground of his being a member of any Highway Board concerned in the matter before him. A Highway Board (§ 47), after causing an estimate to be made, giving notice in a prescribed form, and obtaining the approval of the justices in Quarter Sessions, may make such improvements on highways as are described in § 48; viz., convert any road that has not been stoned into a stone road; widening of any road, cutting off corners where land is required to be purchased for that purpose, levelling roads, making any new road, and building or enlarging bridges; doing any other work essential to placing highways in a proper state of repair; and for these purposes the Board may borrow money. Any parish (§ 49), with the consent of the waywarden, may contribute to any improvements made in another parish, whether or not in the same district, if the improvements are deemed for its benefit. § 50 continues the provisions respecting mortgagees; § 51 imposes a penalty not exceeding 40*s.* for encroachments on the highway, or placing dung or other materials, and gives power to the Board to remove any building, hedge, or fence, or fill any ditch, so found to be an encroachment, and to levy the expense of the same on the offender. The Highway Board (§ 52) is empowered to contract for materials for repairing the roads for a period not exceeding three years. By § 53, the previous Acts, 8 and 9 Vict., cap. 18, and 23 and 24 Vict., cap. 106, are incorporated with this.

PUBLIC WORKS MANUFACTURING DISTRICTS.

[27 and 28 Victoriæ, cap. 104.—July 29, 1864.]

An Act to extend the Power of the Public Works (Manufacturing Districts) Act, 1863.

The power of the Poor Law Board to make orders for loans is extended to June 1, 1865. Local boards, for works of sewerage or water supply, may, with the approval of the Poor Law Board, borrow a sum not exceeding two years' (instead of one) rateable value of the property

assessed; and the local authorities may allow owners to repay the expenses of any private improvement works within thirty years, with interest at 3*l.* 10*s.* per cent.

POOR REMOVAL.

[27 and 28 Victoriæ, cap. 105.—July 29, 1864.]

An Act to explain the Statutes of her present Majesty for amending the Laws relating to the Removal of the Poor.

The whole of this Act is as follows:—"Whereas it is enacted in § 1 of the 25 Vict., cap. 55, that after March 25 then next, the period of three years should be substituted for that of five years, specified in § 1 of the 9 and 10 Vict., cap. 66, and that the residence of a person in any part of a union should have the same effect in reference to the provisions of the said section, as a residence in any parish: and whereas doubts exist as to the proper meaning of this latter provision, and it is desirable to remove the same: be it therefore declared and enacted by the Queen's most excellent Majesty, by and with the advice and consent of the Lords spiritual and temporal, and Commons, in this present parliament assembled, and by the authority of the same: § 1. That in the case of any poor person heretofore chargeable or hereafter becoming chargeable in any parish comprised in a union not being the parish of his settlement, the period of time during which he shall have resided in the parish of the settlement, if in the same union, shall not be excluded in the computation of the time of residence required to render him exempt from removal under the statutes above referred to. § 2. Nothing herein contained shall apply to any order of removal made and executed before the passing of this Act. § 3. The words of this Act shall be construed in the same manner as the said first-mentioned Act."

THAMES CONSERVANCY.

[27 and 28 Victoriæ, cap. 113.—July 29, 1864.]

An Act to amend the Laws relating to the Conservancy of the River Thames, and for the Purposes relating thereto.

By this Act six additional Conservators are to be elected. Twelve Conservators have been appointed under the former Act. The new elective Conservators are to be deemed representatives of certain classes, two to be appointed by owners of shipping registered at the custom-house, one by owners of steamers, two of lighters and steam-tugs on the river Thames, and one by occupiers of docks and sufferance wharves on the river Thames. The election of the Conservators is to take place on or within seven days after the 1st day of December, 1864. The elective Conservators are to go out of office in a prescribed rotation, but are re-eligible. After December 31, 1864, the Conservators may, with the approval of the Treasury, allow themselves 1,200*l.* annually by way of remuneration. The right of supplying ballast and of dredging in the Thames is transferred from the Trinity House to the Conservators, who may sell the ballast and apply the proceeds to the conservancy fund; and they are to have the sole power of laying down buoys and beacons; but the Trinity House are to have the control of lights or lighthouses below London Bridge. The Trinity House, after December 31, 1864, are no longer to grant licences to watermen; and, notwithstanding any bye-laws of the Watermen's Company, any male person above twenty

may contract with any person authorised by the Company to take apprentices, to assist in navigating a lighter or steam-boat on the Thames; the contract to be framed by, and registered at the hall of, the Watermen's Company. Persons having served under the contract for two years may apply to be examined, and if found competent are to receive a certificate to act as lightermen, or in the navigation of a steam-boat. Fees are payable as in the case of apprenticeships, and the certificate may be suspended or cancelled for misconduct. Registered barges, navigated from above Teddington Lock, are not to be compelled to employ a licensed waterman if not proceeding below London Bridge; and the rights of the barge-owners of the river Lea are preserved. The Conservators are empowered to make regulations for bumboats; for the regulation of fishing-boats, nets and lines for taking fish; their water-bailiffs and other officers are authorised to carry their bye-laws into effect; but the rights of private fisheries are exempted. The Conservators may also alter and regulate the steam-boat tolls, and exact tolls for moorings on vessels not paying tonnage or other dues. The annuities under navigation bonds are to be charged on the conservancy fund; and superfluous land may be sold, and the proceeds added to the said fund. Cranes and other suitable machines for unloading colliers, may be authorised by the Conservators, subject to a rent. No gravel, stones, mud, or earth, or any refuse, may be thrown or so placed as to be carried by high tides or floods into the Thames; nor any substance produced in making or supplying gas, nor any other offensive matter, may be suffered to flow into the Thames, under a penalty not exceeding 20*l.* for each offence. Assaulting any of the officers subjects the offender to a penalty not exceeding 5*l.* The rights of the Canvey Island Commissioners, the Society of the Inner Temple, and the Metropolitan Board of Works, are preserved.

POISONED FLESH PROHIBITION.

[27 and 28 Victoriæ, cap. 115.—July 29, 1864.]

An Act to prohibit the placing of Poisoned Flesh and Poisonous Matters in Plantations, Fields, and open places; and to extend the Poisoned Grain Prohibition Act, 1863.

The placing of any flesh or meat, impregnated with any poisonous ingredient calculated to destroy life, in or upon any land, subjects the person so placing it, or causing it to be placed, to a penalty not exceeding 10*l.*; but not to apply to poisoned preparations for the destruction of vermin in corn-stacks, dwellings, or inclosed gardens.

METROPOLITAN HOUSELESS POOR ACT, 1864.

[27 and 28 Victoriæ, cap. 116.—July 29, 1864.]

An Act for making Provision for Distributing the Charge of Relief of certain Classes of Poor Persons over the whole of the Metropolis.

Of this important though short Act, we give the whole:—"Whereas it is expedient that provision should be made for distributing the charge of the relief of certain poor persons in the metropolis during the ensuing winter otherwise than is now lawful: Be it therefore enacted, by the Queen's most excellent Majesty, by and with the advice and consent of the Lords spiritual and temporal, and Commons, in this present parliament assembled, and by the authority of the same: § 1. That after Sept. 29 next, the guardians of every union or parish situated wholly

or partly within the district to which the Metropolis Local Management Act applies, may, subject to the orders and regulations of the Poor Law Board, make out a separate account of the money expended by them daily in the relief of destitute wayfarers, wanderers, or foundlings, during the hours from eight o'clock at night until eight o'clock in the morning, and submit the same to the auditor appointed to audit their accounts at the usual times of audit, who shall duly examine the same, and shall certify the amount which he shall find to have been legally expended in and about such relief under his hand; and if the Poor Law Board shall have certified that proper wards or places of reception have been provided by such guardians, the said guardians may thereupon make application in writing to the Metropolitan Board of Works for reimbursement of the amount so certified by the auditor. § 2. The said Metropolitan Board of Works shall forthwith pay the amount so certified to the guardians, making the application out of the funds in their possession, from time to time raised under the provisions of the said Metropolis Local Management Act, and the amount so paid shall be deemed to be part of the expenses for which the said Board are empowered to make assessment under the said Act, and the said guardians shall apply the sum received in aid of the poor rate of their parish, or the common fund of their union, as the case may be, and shall account for the same accordingly. § 3. The relief to which this Act shall apply shall include food and articles of necessity supplied by the said guardians, or by their relieving or other officer, or by any metropolitan police constable, authorised by them in such behalf, and also the cost of lodging or shelter hired or temporarily provided for any such poor person, but not money given to him. § 4. Where the guardians shall have provided proper wards or other places of reception for this class of poor, and the same shall have been approved by the Poor Law Board, they may include as part of the expense incurred by them in the relief of these poor persons, such sum in respect of each pauper as the Poor Law Board shall from time to time allow for the cost and expense of temporarily providing and maintaining such wards or other places. § 5. Where no adequate accommodation exists, the guardians shall provide within their respective unions or parishes such wards or other places of reception for destitute wayfarers and foundlings as the Poor Law Board, having regard to the number of persons likely to require relief therein respectively, shall direct. In default of making such provision, and until the same has been made, the guardians of the union or parish so making default shall not be entitled to the benefit of this Act. § 6. The provisions of this Act shall not apply to any expenditure for relief incurred after the half-year which will expire at Lady-day, 1865. § 7. The several words used in this Act shall be construed as in the Act of 4 and 5 Will. 4, cap. 76; and the subsequent Acts explaining and extending the same, and the provisions thereof, not inconsistent with anything herein contained, shall be incorporated herewith. § 8. This Act may be cited for all purposes as the Metropolitan Houseless Poor Act, 1864."

WEIGHTS AND MEASURES, METRIC SYSTEM.

[27 and 28 Victoriæ, cap. 117.—July 29, 1864.]

An Act to render permissive the Use of the Metric System of Weights and Measures.

By § 2 contracts made in terms of the Metric System are rendered valid, and § 3 legalises the schedule of the equivalents of the metric

denomination with the British weights and measures. As the schedule contains valuable information, we give it at length;—

MEASURES OF LENGTH.

Metric Denominations.	Metres.	British Equivalents. Miles.	Yards.	Feet.	Inches.
Myriametre .	10,000	6 or	376 10,936	0 0	11·9 11·9
Kilometre . .	1,000	..	1,093	1	10·79
Hectometre .	100	..	109	1	1·079
Dekametre . .	10	..	10	2	9·7079
Metre . .	1	..	1	0	3·3708
Decimetre . .	$\frac{1}{10}$	..	..	..	3·9371
Centimetre . .	$\frac{1}{100}$	..	..	..	0·3937
Millimetre . .	$\frac{1}{1000}$	..	..	..	0·0394

MEASURES OF SURFACE.

	Square Metres.	Acres.	Sq. Yds.
Hectare, *i.e.* 100 Ares . . .	10,000	2 or	2,280·3326 11,960·3326
Dekare, *i.e.* 10 Ares . . .	1,000	..	1,196,0333
Are	100	..	119·6033
Centiare, *i.e.* $\frac{1}{100}$ Are . . .	1	..	1·1960

MEASURES OF CAPACITY.

	Cubic Metres.	Qrs.	Bush.	Pks.	Gals.	Qts.	Pts.
Kilolitre, *i.e.* 1,000 Litres .	1	3	3	2	0	0	0·77
Hectolitre, *i.e.* 100 Litres .	$\frac{1}{10}$	..	2	3	0	0	0·077
Dekalitre, *i.e.* 10 Litres .	$\frac{1}{100}$	..	..	1	0	0	1·6077
Litre	$\frac{1}{1000}$	..	..	..	..	..	1·76077
Decilitre, *i.e.* $\frac{1}{10}$ Litre .	$\frac{1}{10000}$	..	..	..	..	..	0·176077
Centilitre, *i.e.* $\frac{1}{100}$ Litre	$\frac{1}{100000}$	..	..	..	..	..	0·0176077

WEIGHTS.

	Grams.	Cwts.	Stones.	Lbs.	Oz.	Drams.
Millier .	1,000,000	19	5	6	9	15·04
Quintal .	100,000	1	7	10	7	6·304
Myriagram	10,000	..	1	8	0	11·8304
Kilogram .	1,000	.. (or 15432·3487 grains)	..	2	3	4·3830
Hectogram	100	..	..	..	3	8·4383
Dekagram .	10	..	..	..	..	5·6438
Gram .	1	..	..	..	..	0·56438
Decigram .	$\frac{1}{10}$	..	..	..	..	0·056438
Centigram .	$\frac{1}{100}$	..	..	..	..	0·0056438
Milligram .	$\frac{1}{1000}$	..	..	..	..	0·00056438

SALMON FISHERIES, SCOTLAND.

[27 and 28 Victoriæ, cap. 118.—July 29, 1864.]

An Act to amend the Acts relating to Salmon Fisheries in Scotland.

By this Act the time for making certain bye-laws, as limited in the Acts 25 and 26 Vict., cap. 97, and 26 and 27 Vict. cap. 50, are extended to January 1, 1856, and the Secretary of State may confirm such laws. Where District Boards have not been constituted, the Commissioners may re-issue a bye-law on the requisition of any proprietor of salmon fisheries within the district, and the provision that such bye-law shall be communicated to a District Board is in that case repealed. The previous Acts are to be read as one with this.

RAILWAY COMPANIES' POWERS.

[27 and 28 Victoriæ, cap. 120.—July 29, 1864.]

An Act to facilitate in certain Cases the obtaining of further Powers by Railway Companies.

This Act enables Companies to coalesce, by means of a certificate from the Board of Trade, in the maintenance, management, use, and the apportionment of tolls, of the whole of any railway, or of portions only; but on the opposition of any canal company, or any other railway company, the proceedings before the Board of Trade are to cease, and the matter must be referred to parliament.

RAILWAYS CONSTRUCTION FACILITIES.

[27 and 28 Victoriæ, cap. 121.—July 29, 1864.]

An Act to facilitate in certain Cases the obtaining of Powers for the Construction of Railways.

On complying with the general terms of the Acts for the construction of railways, a company may obtain powers and be incorporated by a certificate from the Board of Trade; but, as in the previous Act, the opposition of a canal or railway company stops the proceedings. But such company may not issue shares unless at least one-fifth of the amount of each share be paid up; nor may any money be borrowed until one-half be actually paid up; nor may they pay interest on shares out of any money raised by calls or loans. The schedule gives a rate of maximum charges, which is 3*d.* per mile for first-class passengers, 2*d.* for second class, and 1½*d.* for third-class passengers. There is also a scale for goods, merchandise, &c. This was the last Act of the session.

MEMORANDUM.

[The following List contains the Titles of the Public Acts of the Session of 1864, not included in the foregoing Abstracts.]

2. To enable the Right Hon. Sir John Laird Mair Lawrence to receive the full benefit of the salary of Governor-General of India, notwithstanding his being in receipt of an annuity granted him by the East India Company.

3. For punishing Mutiny and Desertion, and for the better payment of the Army and their Quarters.

4. For the regulation of her Majesty's Royal Marine Forces while on shore.

5. To apply the sum of 584,850*l.* out of the Consolidated Fund to the service of the year ending March 31, 1864.

6. To apply the sum of 4,500,000*l.* out of the Consolidated Fund to the service of the year 1864.

10. To continue for a further period the provisions of the Union Relief Aid Acts.

11. To apply the sum of 15,000,000*l.* out of the Consolidated Fund to the service of the year 1864.

13. To further extend the time for making enrolments under the Act passed in the 24th Vict., intituled 'An Act to amend the Law relating

to the Conveyance of Lands for Charitable Uses,' and otherwise to amend the said law.

14. To confirm certain provisional orders under 'The Land Drainage Act, 1861.'

15. For making better and further provision for the more efficient despatch of business in the High Court of Chancery.

16. To confirm the appointment of Henry Pendock St. George Tucker, Esq., as one of the judges of her Majesty's High Court at Bombay, and to establish the validity of certain proceedings therein.

19. To enable Joint Stock Companies carrying on business in foreign countries to have official seals to be used in such countries.

21. To indemnify certain persons from any penal consequences which they may have incurred by sitting and voting as members of the House of Commons while holding the office of Under Secretary of State.

23. To repeal enactments relating to naval prize of war and matters connected therewith or with the discipline or management of the navy.

24. To provide for the appointment, duties, and remuneration of agents for ships of war, and for the distribution of salvage, bounty, prize, and other money among the officers and crews thereof.

25. For regulating naval prize of war.

26. To confirm certain provisional orders under the 'Local Government Act, 1858,' relating to the Districts of Southampton, Brighton, Hexham, Oswaldtwistle, Bolton, Ashford, Oswestry, Fareham, West Cowes, and Wilton.

28. To amend 'The Common Law Procedure (Ireland) Act, 1853,' in relation to jurors and juries in the county of Cork.

30. To provide for the alteration of the circuits of the Courts of Justiciary in Scotland, and for holding additional circuit courts.

31. To settle an annuity on Mary Louisa, Countess of Elgin and Kincardine, in consideration of the distinguished services performed by the late James, Earl of Elgin and Kincardine.

32. To enable certain Banking Copartnerships which shall discontinue the issue of their own bank notes to sue and be sued by their public officer.

33. To facilitate the commutation and sale of certain Vicarage Teinds in Scotland.

34. For amending the law relating to seats in the House of Commons of persons holding certain public offices.

36. To amend the law relative to the payment of the Shares of Prize and other Money belonging to deceased Officers and Soldiers of her Majesty's Land Forces.

38. To facilitate the redemption of Chief Rents in Ireland.

40. For authorizing the relinquishment in favour of the King of the Hellenes of certain money payable in respect of the Greek Loan.

41. For confirming a scheme of the Charity Commissioners for the Charity called 'The Free Grammar School' in the City of Coventry.

45. To further amend 'The Settled Estates Act of 1856.'

49. To indemnify such persons in the United Kingdom as have omitted to qualify themselves for offices and employments, and to extend the time limited for those purposes respectively.

50. To amend an Act of the 25th Vict., to provide for the Registration and Transfer of Indian Stocks at the Bank of Ireland, and for the mutual Transfer of such Stocks from and to the Banks of England and Ireland respectively.

51. To vest the site of the India Office in her Majesty for the service of the Government of India.

52. To amend the law relating to the Valuation of Rateable Property in Ireland.

53. To make Provision for Uniformity of Process in summary Criminal Prosecutions and Prosecutions for Penalties in the Inferior Courts in Scotland.

54. For the Union of the Diocesan Courts and Registries in Ireland; for the Regulation of the Mode of Procedure therein, and also in the Provincial Courts of Armagh and Dublin; and for Appeals therefrom.

57. To make Provision respecting the Acquisition of Lands required by the Admiralty for the Public Service, and respecting the use and disposition thereof, and the execution of works thereon.

58. For confirming a Provisional Order concerning Pilotage made by the Board of Trade under 'The Merchant Shipping Act, 1862,' relating to Hartlepool.

59. To continue the Deputy Commissioners in Lunacy in Scotland, and to make further Provision for the Salaries of the Deputy Commissioners, Secretary, and Clerk of the General Board of Lunacy in Scotland.

60. To enable her Majesty to grant a lease for 999 years of the building known as the College of Physicians in Pall Mall East.

61. For empowering the Commissioners of the Treasury to guarantee, and the Commissioners for the Reduction of the National Debt to advance, the Sums authorised to be borrowed for the Embankment of the Thames and Improvement of the Metropolis; and for other Purposes connected therewith.

62. For amending 'The Isle of Man Harbours Act, 1863.'

63. To suspend the making of Lists and Ballots for the Militia of the United Kingdom.

65. For amending the law relating to the Removal of Clerks of the Peace.

68. To amend 'The Local Government Act of 1858' so far as it applies to Oxford.

69. To defray the charge of the pay, clothing, and contingent and other expenses of the Disembodied Militia in Great Britain and Ireland; to grant allowances in certain cases to Subaltern Officers, Adjutants, Paymasters, Quartermasters, Surgeons, Assistant-Surgeons, and Surgeons' Mates of the Militia; and to authorise the employment of the Non-Commissioned Officers.

70. To substitute fixed instead of fluctuating incomes for the members of certain minor Corporations in certain of the Cathedral Churches in England.

71. For amending and extending 'The Railways (Ireland) Act, 1851,' and 'The Railways (Ireland) Act, 1860.'

72. To explain certain provisions contained in 'The Drainage and Improvement of Lands (Ireland) Act, 1863.'

73. To apply a sum out of the Consolidated Fund and the Surplus of Ways and Means to the service of the year 1864, and to appropriate the supplies granted in this session of Parliament.

74. For raising the sum of 1,600,000*l.* by Exchequer Bonds for the service of the year 1864.

75. To amend the law relating to the repair of Turnpike Roads in England, and to continue certain Turnpike Acts in Great Britain.

76. To make valid defective registration of deeds in certain cases, and to substitute stamps in lieu of the fees now payable on Proceedings in the Registrar of Deeds Office in Ireland.

77. To repeal and in part to re-enact certain Acts of Parliament relating to the Ionian States, and to establish the validity of certain things done in the said States.

79. To confirm certain Provisional Orders made under an Act of the 15 Vict., to facilitate Arrangements for the Relief of Turnpike Trusts.

80. To extend the provisions of 'The Criminal Justice Act, 1855,' to the Liberties of the Cinque Ports and to the District of Romney Marsh in the County of Kent.

81. For amending the Act 11 & 12 Geo. III., cap. 17 (I.), in respect of the charges on the revenues of the Archbishopric of Armagh.

82. To guarantee the liquidation of a loan for the service of the colony of New Zealand.

83. To confirm certain Provisional Orders under 'The Local Government Act, 1858,' relating to the Districts of Kingston-upon-Hull, Stockport, Penzance, Shanklin, Portsmouth, Tunbridge Wells, Woolwich, and Tormoham.

84. For continuing various expiring Acts.

89. To amend 'The Defence Act, 1842.'

93. For confirming certain Provisional Orders made by the Board of Trade under 'The General Pier and Harbour Act, 1861,' relating to Brighton, Eastbourne, Sandown, Walton-on-the-Naze, Clevedon, Rhyl, Bray, Kircubbin, Walton (Suffolk), Holywood, Exe Bight, Lytham, Ardglass, Filey, Greenock, Carlingford Lough, Wexford, Torquay, and Oban.

96. To enable certain Royal and Parliamentary Burghs in Scotland to avail themselves of the provisions of the 22 and 23 Vict., cap. 66, and 23 and 24 Vict., cap. 146, for regulating the Sale of Gas.

99. To amend the Procedure of the Civil Bill Courts in Ireland.

100. To confirm certain proceedings of the Justices for the County of Sussex.

102. For amending 'The Harwich Harbour Act, 1863.'

103. To authorize the acquisition of lands by the Admiralty with a view to the extension of Portsmouth Dockyard, and for other purposes connected therewith.

106. To authorize the Lords Commissioners of the Treasury to make provision in regard to the salaries of certain Sheriffs Substitute in Scotland.

107. To confirm a Provisional Order under 'The Drainage and Improvement of Lands (Ireland) Act, 1863.'

108. To amend 'The West Indian Incumbered Estates Acts.'

109. For providing a further sum towards defraying the expenses of constructing fortifications for the protection of the Royal Arsenals and Dockyards and the Ports of Dover and Portland, and of creating a Central Arsenal.

110. For the amendment of the law relating to the Mitigation of Penalties.

111. To transfer certain houses in and near Cranbourne Street, in the City of Westminster, from the Commissioners of her Majesty's Works to her Majesty, for the considerations therein mentioned.

112. To amend the law relating to future Judgments, Statutes, and Recognizances.

114. The Improvement of Land Act, 1864.

119. To make provision for the discipline of the Navy.

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I.—Finance.

1. An Account of the Gross Public Income of the United Kingdom of Great Britain and Ireland, in the Year ended Dec. 31, 1863, and of the actual Issues or Payments within the same period.

INCOME OR REVENUE.

	£.	s.	d.
Ordinary Revenue.			
Customs	23,421,000	0	0
Excise	17,745,000	0	0
Stamps	9,252,000	0	0
Taxes (Land and Assessed)	3,208,000	0	0
Property Tax	9,806,000	0	0
Post Office	3,800,000	0	0
Crown Lands (Net)	302,500	0	0
Other Receipts.			
Produce of Sale of Old Stores, and other Military and Naval extra Receipts	704,572	9	8
Amount received from the Revenues of India on account of the effective and non-effective charges of British Troops serving in that country	993,000	0	0
Allowance out of Profits of Issue received from the Bank of England, per Act. 24 Vict. c. 3	131,578	0	0
Miscellaneous Receipts, including imprest and other Moneys	857,634	16	1
China War Indemnity	212,335	0	0
Total Revenue	£70,433,620	5	9

EXPENDITURE.

	£.	s.	d.
Funded Debt.			
Interest and Management of the Permanent Debt	23,801,729	17	10
Terminable Annuities	1,992,013	15	11
Interest of Exchequer Bonds	108,750	0	0
Interest of Exchequer Bills	315,541	2	10
Ditto Deficiency Bills	175	0	0
Charges on Consolidated Fund.			
Civil List	405,712	17	2
Annuities and Pensions	301,823	1	1
Salaries and Allowances	178,751	17	11
Diplomatic Salaries and Pensions	169,684	0	0
Courts of Justice	687,491	16	6
Miscellaneous Charges	198,732	7	8
Supply Services.			
Army	15,021,481	4	4
Navy	10,491,596	3	1
Miscellaneous Civil Services	7,701,764	16	0
Salaries, &c., of Revenue Departments	4,541,732	3	9
Packet Service	908,082	7	9
Kertch and Yenikale Prize Money	85,925	0	0
Total Ordinary Expenditure	66,910,987	11	10
Expenses of Fortifications	900,000	0	0
Total Expenditure	£67,810,987	11	10
Excess of Income over Expenditure	2,622,632	13	11
	£70,433,620	5	9

2. THE REVENUE.—AN ABSTRACT of the GROSS PRODUCE of the REVENUE of the UNITED KINGDOM, in the under-mentioned periods, ended September 30, 1864, compared with the corresponding periods of the preceding Year.

	Quarters ended				Year ended Sept. 30, 1863.	Quarters ended				Year ended Sept. 30, 1864.
	Dec. 31, 1862.	March 31, 1863.	June 30, 1863.	Sept. 30, 1863.		Dec. 31, 1863.	March 31, 1864.	June 30, 1864.	Sept. 30, 1864.	
	£.	£.	£.	£.	£.	£.	£.	£.	£.	£.
Customs	6,320,000	5,722,000	5,857,000	5,872,000	23,771,000	5,970,000	5,533,000	5,446,000	5,624,000	22,573,000
Excise	4,000,000	4,665,000	4,405,000	3,922,000	16,992,000	4,753,000	5,127,000	4,864,000	4,352,000	19,096,000
Stamps	2,187,000	2,374,000	2,394,000	2,191,000	9,146,000	2,293,000	2,439,000	2,539,000	2,267,000	9,538,000
Taxes	1,270,000	357,000	1,390,000	176,000	3,193,000	1,285,000	367,000	1,432,000	168,000	3,252,000
Property Tax	2,931,000	3,890,000	2,918,000	866,000	10,605,000	2,132,000	3,168,000	2,469,000	782,000	8,551,000
Post Office	950,000	955,000	950,000	905,000	3,760,000	990,000	965,000	960,000	1,045,000	3,960,000
Crown Lands	86,000	79,000	68,500	68,000	301,500	87,000	81,500	69,000	69,000	306,500
Miscellaneous	634,928	1,171,746	507,704	411,504	2,725,882	808,166	1,308,589	495,200	485,489	3,097,444
Totals	18,378,928	19,213,746	18,490,204	14,411,504	70,494,382	18,318,166	18,989,089	18,274,200	14,792,489	70,373,944

AN ACCOUNT showing the REVENUE and other RECEIPTS of the Quarter ended Sept. 30, 1864, the Application of the same, and the Charge of the Consolidated Fund for the said Quarter, together with the Surplus or Deficiency upon such Charge.

	£.
Surplus Balance beyond the Charge of the Consolidated Fund, for the Quarter ended June 30, 1864, viz.:—Ireland	797,620
Income received in the Quarter ended Sept. 30, 1864, as shown above	14,792,489
Amount raised per Acts 25-26 Vict., cap. 78, and 26-27 Vict., cap. 80., on account of Fortifications, &c.	185,000
Amount received in the Quarter ended Sept. 30, 1864, in repayment of Advances for Public Works, &c.	527,183
Balance, being the deficiency on Sept. 30, 1864, upon the Charge of the Consolidated Fund in Great Britain, to meet the Dividends and other Charges payable in the Quarter to Dec. 31, 1864, and for which Exchequer Bills (Deficiency) will be issued in that Quarter	2,695,919
	£18,998,211

	£.	£.
Amount applied in redemption of Exchequer Deficiency Bills, for the Quarter ended June 30, 1864, after deducting £588,169 redeemed by Sinking Fund		363,243
Amount applied to Supply Services, in the Quarter ended Sept. 30, 1864		9,918,867
Charge of the Consolidated Fund for the Quarter ended Sept. 30, 1864, viz.:—	£.	
Interest of the Permanent Debt	5,424,257	
Terminable Debt	908,543	
Principal of Exchequer Bills	234,900	
Interest of Exchequer Bills	81,886	
The Civil List	101,472	
Other Charges on Consolidated Fund	484,758	
Advances for Public Works, &c.	460,465	
Sinking Fund	612,471	
		8,308,752
Surplus Balance beyond the Charge of the Consolidated Fund in Ireland, for the Quarter ended Sept. 30, 1864		407,349
		£18,998,211

3. GROSS AMOUNT produced by CUSTOMS DUTIES upon the Principal and other Articles of Foreign and Colonial Merchandise, in the Year 1863.

	£.
Cocoa	17,111
Coffee:—From British Possessions out of Europe	371,166
From Foreign Countries	41,166
Corn:—Wheat	283,544
Barley	103,941
Oats	118,824
Peas	15,210
Beans	24,423
Indian Corn or Maize	149,031
Wheatmeal and Flour	97,947
Other kinds of Grain and Meal	2,589
Fruits:—Currants	268,924
Figs	24,105
Raisins	109,197
Spices:—Pepper	116,535
Spirits:—Rum	1,737,672
Brandy	998,065
Geneva	53,607
Sugar, unrefined:—From British Possessions in America	2,355,855
From Mauritius	887,425
From British Possessions in the East Indies	215,120
From Foreign Countries	2,871,525
Sugar, Refined, and Candy:—From British Possessions out of Europe	1,161
From Foreign Countries	228,730
Sugar, Molasses:—From British Possessions out of Europe	43,887
From Foreign Countries	113,480
Tea	4,652,822
Timber and Wood:—Not sawn or split, or otherwise dressed, except hewn—From British Possessions	34,529
Foreign	
Deals, Battens, Boards, or other Timber or Wood, sawn or split:—From British Possessions	38,102
Foreign	77,998
Firewood	111,466
Lathwood	6,573
Tobacco:—Stemmed	3,190
Unstemmed	1,882,084
Manufactured, and Snuff	3,950,555
Wine:—Under 26 dgs.	153,808
,, 45 ,, to 3rd April, 1862, under 42 dgs. from that date	63,806
42 dgs. and upwards from 3rd April, 1862	1,029,665
In bottles: under 40 dgs. to 3rd Apr., 1862, under 42 dgs. from that date	3,071
Other Articles	118,220
	212,803
Total	23,588,932
The drawbacks and allowances on quantities over-entered, damaged, &c., was	371,295
Net Produce, not deducting charge for collecting	£23,217,637

4. CORNWALL, DUCHY OF.—The revenue for the year ending Dec. 31, 1863, was 64,053*l.*, exclusive of the balance in hand from 1862 of 6,474*l.* Of this income 44,962*l.* arose from the profits of courts, royalties of coal-mines, quarries, sale of wood, &c.; 16,217*l.* from the Consolidated Fund in lieu of tin coinage duties, &c.; 2,527*l.* from interest on stock; and 347*l.* interest on money expended in the purchase of the toll tin lease and expenses. The expenditure was 65,497*l.*, of which 46,000*l.* were paid to the treasurer of the Prince of Wales, 4,026*l.* in deductions and allowances to tenants, 3,599*l.* in superannuations, charities, law charges, &c., 7,674*l.* for expenses of management, and 5,070*l.* remained in the hands of bankers or agents. The capital account shows a balance of 84,257*l.* in 3 per cent. stocks, and a cash balance increased from 2,919*l.* to 6,391*l.* by the sale of small quit rents, &c., and the repayment of 2,500*l.* for expenses on the tin toll account.

5. LANCASTER, DUCHY OF.—The receipts from rents, royalties, &c., in 1863, amounted to 38,320*l.*, and the disbursements were 14,359*l.* for salaries and expenses, taxes and allowances. The sum of 25,000*l.* was paid over to the Keeper of her Majesty's Privy Purse. The capital account, after giving credit for receipts for grants in fee, and making deduction for outlay on estates, in draining and the erection of farm buildings, had a balance of 41,671*l.* Consols at the end of the year.

6. INCOME TAX.—The gross receipt from the income tax for the year ended March 31, 1863, was from Great Britain 10,006,473*l.*, and amounted to 8*s.* 6½*d.* per head on the whole of the estimated population. In Ireland the amount was 703,322*l.*, or 2*s.* 5½*d.* per head. The number of persons charged with income tax under Schedule D in Great Britain continues to increase. In the year ending April 5, 1862, the number was 285,457, and they were charged upon incomes amounting to 89,013,493*l.*; and in the year ending April 5, 1863, the number rose to 293,468, and the income charged with tax to 93,322,864*l.* In Ireland there was a decrease. In the year 1861-62 17,602 persons were charged with income tax under Schedule D upon incomes amounting to 4,677,568*l.*: in the year 1862-63 only 17,438

persons, but the incomes still amounted to 4,637,743*l.* The rate was 9*d.* The net amount of the income tax under the whole of the schedules is returned as follows for the year ending April 5, 1863 :—

England	£9,551,214
Scotland	901,257
Ireland.	796,170
	£11,248,641

7. ACCOUNT of the TOTAL INCOME of the REVENUE of INDIA and of the PUBLIC EXPENDITURE in the Year ended April 30, 1863.

REVENUE.	£.
Land revenue, including tributes and contributions from Native States, Sayer and Miscellaneous, and Abkaree Revenues, &c.	22,767,570
Assessed Taxes	1,882,212
Customs	2,464,366
Salt	5,244,150
Opium	8,055,476
Stamps	1,489,638
Mint	371,116
Post Office	425,528
Electric Telegraph	75,525
Law and Justice, and Police .	494,842
Marine	189,846
Public Works	443,553
Miscellaneous, Civil . . .	404,557
„ Military . .	802,309
Interest	34,364
	£45,143,752

EXPENDITURE.	£.
Repayments, Allowances, Refunds, and Drawbacks . .	342,066
Charges of Collection and Payments in realization of the Revenue, including Cost of Salt and Opium	5,835,110
Allowances and Assignments under Treaties, &c. . . .	1,735,663
Allowances to District and Village Officers, &c.	568,046
Charges in India, including Interest on Debt and Value of Stores from England . . .	28,319,920
Charges in England, excluding Stores supplied to India . .	4,943,428
Guaranteed Interest on the Capital of Railway and other Companies, deducting Net Traffic Receipts	1,572,173
Excess of Income . .	1,827,346
	£45,143,752

The estimated revenue of India for the year ending April 30, 1864, is 44,753,500*l.*; and the expenditure 44,496,611*l.*; leaving a surplus of 257,889*l.*

8. ASSESSED TAXES.—The house duty produced 844,679*l.* in the financial year ending with March 1863, and 898,274*l.* in the financial year ending with March 1864. The tax on servants rose from 203,893*l.* to 208,830*l.*; on carriages from 340,106*l.* to 350,833*l.*; on dogs from 199,965*l.* to 205,329*l.*; on armorial bearings from 58,359*l* to 60,182*l.* The tax on hair-powder has now fallen below 1,200*l.*

9. TAXES REPEALED OR REDUCED, AND IMPOSED.—In 1863 the duty on tea was reduced by the estimated amount of 1,641,541*l.*; on tobacco by an amount estimated at 74,055*l.*; the charges on import duties repealed to the amount of 180,732*l.*; and the income tax was reduced by the sum of 2,570,000*l.*; a total of 4,646,319*l.* An increase on the customs duty on chicory was imposed to the estimated amount of 6,811*l.*, and on the excise duty by 1,000*l.*; on stage carriages by 11,000*l.*; by an additional license duty on beer dealers of 2,000*l.*, and on those of retailers of beer of 10,000*l.*; a total of 30,811*l.*

10. NATIONAL DEBT.—On March 31, 1864, the total amount of the national debt was 790,565,224*l.*, of which 777,429,224*l.* was funded, and 13,136,000*l.* unfunded; but in 1864 the sum of 5,000,000*l.* of funded debt was cancelled, and a terminable annuity created instead thereof. In 1863 the total debt was 799,802,139*l.*

11. LOCAL TAXATION.—The annual accounts of the county treasurers of England and Wales show that the total assessment for the county-rate amounted to 71,339,174*l.*; the receipt from county and police rates, in the year ending Sept. 29, 1863, was 1,323,591*l.*; the Treasury allowance for prosecution of prisoners and towards expenses of police, 333,973*l.*; and the receipt on account of lunatics, 59,966*l.* The chief items of expenditure were 618,187*l.* for rural police, 351,164*l.* on gaols, 131,699*l.* on prosecution of prisoners, 21,049*l.* on conveyance of prisoners, 122,782*l.* on lunatic asylums. County bridges cost 52,774*l.*, clerks of the peace received 46,594*l.*, and coroners received 58,431*l.*

II.—Currency.

12. Statement of the Affairs of the Bank of England from the Weekly Returns of the undermentioned dates in 1863 and 1864.

	Nov. 18, '63.	Feb. 10, '64.	May 25.	July 20.	Sept. 17.
Issue Department.	£.	£.	£.	£.	£.
Dr.—Notes issued	27,375,940	27,403,185	27,691,305	27,106,250	26,807,115
Cr.—Government Debt	11,015,100	11,015,100	11,015,100	11,015,100	11,015,100
Other Securities	3,634,900	3,634,900	3,634,900	3,634,900	3,634,900
Gold Coin and Bullion	12,725,940	12,753,185	13,041,305	12,456,250	12,157,115
Total	27,375,940	27,403,185	27,691,305	27,106,250	26,807,115
Banking Department.					
Dr.—Proprietors' Capital	14,553,000	14,553,000	14,553,000	14,553,000	14,553,000
Rest	3,193,201	3,550,767	3,290,033	3,468,793	3,901,097
Public Deposits	6,451,850	7,254,682	7,971,003	4,462,490	6,702,054
Other Deposits	13,403,442	12,882,226	12,882,042	13,408,675	12,723,620
Seven Days' and other Bills	680,884	546,193	451,242	607,133	544,299
Total	38,282,377	38,786,868	39,147,320	36,500,091	38,424,070
Cr.—Government Securities	10,810,330	11,124,584	10,785,267	11,092,121	10,797,095
Other Securities	20,499,915	19,701,933	20,414,915	19,281,960	20,487,579
Notes	6,278,470	7,241,265	7,274,500	5,410,699	6,391,000
Gold and Silver Coin	693,662	719,086	672,638	715,311	748,396
Total	38,282,377	38,786,858	39,147,320	36,500,091	38,424,070

13. Note Circulation of the United Kingdom for the Months ending at the following dates in 1863 and 1864.

	Nov. 14, '63.	Feb. 6, '64.	May 28.	July 23.	Sept. 17.
	£.	£.	£.	£.	£.
Bank of England	21,853,803	20,608,354	20,919,860	21,335,410	20,618,682
Private Banks	3,371,546	3,204,757	3,218,219	3,110,049	2,971,725
Joint Stock Banks	2,998,844	2,898,516	2,996,626	2,895,225	2,788,886
Scotland	4,526,702	4,087,428	4,532,540	4,250,482	4,174,356
Ireland	6,015,701	5,664,225	5,791,468	5,345,435	5,328,073
Total	38,766,596	36,463,280	37,458,713	36,936,601	35,881,722

14. Coinage.—In 1863 there were coined—

Gold.	No.	Value. £.	s.	d.
Sovereigns	5,921,669	5,921,669	4	4
Half-Sovereigns	1,371,574	685,787	1	0
Total gold	7,293,243	6,607,456	5	4
Silver.				
Florins	938,520	93,852	0	0
Shillings	859,320	42,966	0	0
Sixpences	491,040	12,276	0	0
Fourpences	4,158	69	6	0
Threepences	954,888	11,936	2	0
Twopences	4,752	39	12	0
Pence	7,920	33	0	0
Total silver	3,259,598	161,172	0	0
Bronze.				
Pence	28,062,720	116,928	0	0
Halfpence	15,948,800	33,226	13	4
Farthings	1,433,600	1,493	6	8
Total bronze	46,185,120	151,648	0	0

But the real cost of the silver was 171,855*l.* 15*s.*, including 324,674,838 ounces of worn silver returned, and taken at the nominal value of 102,800*l.*, on which there was a loss of 13,514*l.* 8*s.* 7*d.* on the re-coinage; the average price of silver bullion during the year was 5*s.* 1½*d.* per oz. The cost of the bronze was 82,482*l.*

15. Bullion.—The amount of gold bullion purchased by the Bank of England in 1863 was 9,137,481*l.*; the amount sold in the same period was 821,877*l.* The excess of repayments in gold coin was 8,760,633*l.*; the Mint supplying 6,646,033*l.* In the year 1863 there was imported and registered gold to the value of 19,142,665*l.*, and silver to the value of 10,888,129*l.*; and there was exported in the same year gold to the value of 15,303,279*l.*, and silver to the value of 11,240,761*l.* The greatest quantity of gold imported was from the United States, 7,520,682*l.*; and the next from Australia, 5,995,368*l.*; of silver the greatest amount

received was from Mexico and South America, 6,651,506*l.* Of the exports, the greatest amount of gold, 3,502,829*l.*, was exported to France; and the next, 3,473,682*l.*, to Egypt; to Russia there were sent 2,707,857*l.*; to Brazil, 1,681,025*l.*; and to the Hanse Towns, 1,080,944*l.* Of silver, the greatest amount, 8,815,748*l.* (of which 2,586,309*l.* was in coin, the rest in bullion), was to Egypt, chiefly intended for China and the East Indies.

16. Gold of New Zealand.—The quantity of gold exported from New Zealand from the 1st of April, 1857, to the 30th of September, 1863, amounted to 1,130,763 ounces, and the value to 4,377,708*l.*

III.—Trade.

17. Imports and Consumption of the Principal Articles of Foreign and Colonial Merchandise in the Year ended December 31, 1863, with the Computed Real Value.

Articles Free of Duty.		Imported.	Computed Real Value.
Animals, Living:—Oxen, Bulls, and Cows	number	109,653	£1,931,814
Calves	,,	41,245	
Sheep and Lambs	,,	430,788	669,573
Swine and Hogs	,,	27,137	..
Ashes, Pearl and Pot	cwts.	176,334	..
Bark for Tanners' or Dyers' use	,,	326,192	..
Peruvian	,,	23,589	..
Bones (whether burnt or not, or as Animal Charcoal)	tons	77,492	431,779
Brimstone	cwts.	847,722	282,019
Bristles	lbs	2,517,185	314,284
Caoutchouc	cwts.	65,649	512,399
Clocks	number	314,291	512,572
Watches	,,	160,648	
Cotton, Raw:—From United States	cwts.	57,090	644,138
Brazil	,,	201,814	2,077,688
Egypt	,,	835,289	8,841,557
British East Indies	,,	3,878,757	34,700,661
Other countries	,,	1,005,472	10,013,909
Total of Raw Cotton	,,	5,978,422	56,277,953
Cotton Manufactures	value £.	1,034,904	1,034,904
Cream of Tartar	cwts.	36,411	..
Dyes and Dyeing Stuffs:—Brazil Wood	tons	539	..
Cochineal	cwts.	26,120	..
Indigo	,,	85,395	2,396,964
Logwood	tons	38,404	..
Madder and Madder Root	cwts.	355,681	736,272
Garancine	,,	37,271	..
Shumac	tons	12,807	140,875
Terra Japonica	,,	10,822	..
Cutch	,,	2,020	292,773
Valonia	,,	35,541	495,005
Elephants' Teeth and other ivory	cwts.	9,094	256,059
Flax (dressed and undressed), and Tow or Codilla of Flax	,,	1,458,962	4,271,059
Fruit:—Lemons and Oranges	bushels	1,346,585	758,854
Guano	tons	233,574	2,658,856
Gum Shellac	cwts.	35,138	..
Gutta Percha	,,	21,655	224,961
Hair:—Goats' Hair or Wool	lbs.	3,434,705	502,728
Manufactures of Hair and of Goats' Wool	value £.	281,577	281,577
Hemp (dressed and undressed), and Tow or Codilla of Hemp	cwts.	1,038,159	1,880,253
Jute and other vegetable substances of the nature of Hemp	,,	1,252,787	1,525,996
Hides, Untanned:—Dry	,,	355,306	1,235,642
Wet	,,	667,518	1,548,980
Tanned, Tawed, Curried, or Dressed (except Russia Hides)	lbs.	5,117,554	431,949

		Imported.	Computed Real Value. £.
Hops	cwts.	147,281	596,660
Leather Manufactures:—Boots, Shoes, and Goloshes of all kinds	pairs	443,739	..
Boot Fronts	,,	470,844	..
Gloves	,,	8,093,580	..
Metals:—Copper Ore	tons	80,693	1,182,177
Copper Regulus	,,	21,406	818,296
Copper, unwrought and part wrought	cwts.	243,240	1,100,915
Iron, in Bars, unwrought	tons	46,635	527,848
Steel, unwrought	,,	4,016	..
Lead, Pig and Sheet	,,	28,604	559,057
Spelter or Zinc	,,	34,572	672,699
Tin, in Blocks, Ingots, Bars, or Slabs	cwts.	54,559	327,234
Silver Ore	value £.	272,826	272,826
Oil:—Petroleum	tuns	35,345	690,698
Train, Blubber, and Spermaceti	,,	14,266	826,343
Palm	cwts.	790,224	1,419,536
Cocoa Nut	,,	320,180	..
Olive	tuns	19,866	1,138,336
Seed Oil of all kinds	,,	12,697	559,342
Oil of Turpentine	cwts.	91,703	353,096
Oil Seed Cakes	tons	88,566	676,165
Paper for Printing or Writing	cwts.	133,401	342,399
Potatoes	,,	1,249,360	..
Provisions:—Bacon and Hams	,,	1,877,813	2,365,726
Beef, Salt	,,	282,677	428,802
Pork, Salt	,,	168,939	313,407
Butter	,,	986,708	4,537,157
Cheese	,,	756,285	1,886,109
Eggs	number	266,929,680	673,638
Lard	cwts.	530,512	1,022,558
Quicksilver	lbs.	1,762,393	..
Rags, &c., for making Paper	tons	45,448	592,214
Rice, not in the Husk	cwts.	3,070,292	1,866,109
Saltpetre	,,	404,515	741,508
Cubic Nitre	,,	539,808	383,762
Seeds:—Clover	,,	272,626	715,951
Flaxseed and Linseed	qrs.	1,104,578	3,372,432
Rape	,,	313,577	929,310
Silk:—Raw	lbs.	9,221,145	9,380,758
Waste, Knubs, and Husks	cwts.	31,940	..
Thrown	lbs.	59,383	93,939
Silk Manufactures of Europe:—Broad Stuffs	,,	1,504,848	3,683,752
Ribbons, Silk or Satin	,,	566,618	1,359,883
Gauze or Crape	,,	180	513
Velvet or Plush	,,	283,037	594,378
Plush for making Hats	,,	97,669	136,735
Silk Manufactures of India:—Bandannas, Corahs, Choppas, Tussore Cloths, Romals, and Taffaties	pieces	169,668	128,215
Spices:—Cinnamon	lbs.	913,455	77,377
Ginger	cwts.	29,743	52,134
Nutmegs	lbs.	551,571	27,160
Pimento	cwts.	29,299	260,907
Tallow	,,	1,160,219	2,438,613
Tar	lasts	21,084	..
Turpentine, Common	cwts.	27,343	..
Wool, Sheep and Lambs':—From Hanse Towns and other Parts of Europe	lbs.	34,411,909	..
British Possessions in South Africa	,,	20,166,617	..
British East Indies	,,	20,670,111	..
Australia	,,	77,173,446	..
Other Countries	,,	21,671,979	..
Total	,,	174,094,062	11,465,257
Alpaca and the Llama Tribe	,,	3,402,582	419,315
Woollen Rags, torn up to be used as Wool	,,	22,098,944	405,487

		Imported.	Computed Real Value. £.
Woollen Manufactures:—Not made up	value £.	1,596,081	1,596,081
Shawls, Scarfs, and Handkerchiefs	lbs.	300,969	..
Woollen and Worsted Yarn	,,	4,523,369	..
Yeast, Dried	cwts.	104,233	209,837

ARTICLES SUBJECT TO DUTY.

		Imported.	Entered for Home Consumption.	Computed Real Value. £.
Cocoa	lbs.	9,592,965	4,106,468	249,294
Coffee	,,	117,354,329	32,986,116	4,155,029
Corn:—Wheat	qrs.	5,622,501	5,670,809	12,015,006
Barley	,,	2,067,388	2,078,717	2,823,544
Oats	,,	2,362,031	2,376,474	2,215,676
Peas	,,	302,582	304,155	516,957
Beans	,,	484,846	488,438	749,074
Indian Corn or Maize	,,	2,971,872	2,980,707	4,042,908
Wheat Meal and Flour	cwts.	5,218,976	5,265,843	3,522,931
Indian Corn Meal	,,	9,702	9,702	..
Fruit:—Currants	,,	920,442	768,312	981,137
Raisins	,,	421,796	311,937	580,548
Mahogany	tons.	47,980	47,980	..
Spices:—Pepper	lbs.	16,810,467	4,439,383	..
Spirits:—Rum	proof galls.	7,194,739	3,419,756	581,039
Brandy	,,	3,132,744	1,916,434	1,124,824
Sugar, Unrefined:—First Quality (equal to White Clayed)	cwts.	56,088	23,150	76,109
Second Quality (not equal to White, but equal to Brown Clayed)	,,	4,046,696	3,662,136	4,705,507
Third Quality (not equal to Brown Clayed)	,,	6,621,863	5,964,918	6,748,626
Sugar, Refined, and Sugar Candy	,,	298,847	250,798	500,307
Molasses	,,	708,485	*749,049	336,628
Tea	lbs.	136,806,319	85,206,779	10,666,017
Timber and Wood:—Deals, Battens, Boards, or other Timber or Wood Sawn or Split	loads	1,902,908	1,902,912	5,766,003
Staves, not exceeding 72 in. long	,,	58,179	58,179	..
Timber or Wood not Sawn or Split, or otherwise Dressed, except Hewn, and not otherwise charged with Duty	,,	1,476,828	1,476,828	4,988,235
Tobacco:—Stemmed	lbs.	11,791,657	11,949,732	760,407
Unstemmed	,,	39,526,623	25,084,129	1,722,571
Manufactured, and Snuff	,,	3,803,768	582,379	534,179
Wine:—Red	galls.	5,763,547	4,529,053	1,401,703
White	,,	8,422,642	5,949,348	3,095,640

The total real value of the principal and other articles for the year was £248,980,942.

* Including 119,575 cwts. delivered free for distilleries.

18. EXPORTS of the PRINCIPAL ARTICLES OF FOREIGN AND COLONIAL MERCHANDISE in the Year ended December 31, 1863.

Cheese	cwts.	9,550	Fruit:—Currants	cwts.	97,093
Cocoa	lbs.	6,156,100	Raisins	,,	38,988
Coffee:—			Guano	tons.	7,076
Of British Possessions	,,	57,600,343	Hemp	cwts.	104,018
Foreign	,,	13,784,890	Jute, and other vegetable substances of the nature of Hemp	,,	168,388
Corn:—Wheat	qrs.	24,403	Hides, Untanned—Dry	,,	239,744
Wheat-meal or Flour	cwts.	29,613	Wet	,,	79,864
Cotton, Raw	,,	2,158,491	Hops	,,	5,583
Cotton Manufactures	value £.	200,320	Leather Manufactures:—		
Dyes and Dyeing Stuffs:—			Gloves	pairs.	49,872
Cochineal	cwts.	20,455			
Indigo	,,	54,663			

Metals:—Copper	cwts.	125,641
Tin, in Blocks, Ingots, Bars, or Slabs	„	22,701
Oil:—Petroleum	tuns.	8,174
Palm	cwts.	202,169
Cocoa Nut	„	197,309
Olive	tuns.	918
Paper, White, for Printing or Writing	cwts.	14,555
Quicksilver	lbs.	1,840,658
Rags and other Materials for making Paper	tons.	1,509
Rice, not in the Husk	cwts.	1,605,784
Saltpetre	„	26,312
Seed:—Flax & Linseed	qrs.	90,497
Rape	„	59,514
Silk:—Raw	lbs.	3,852,919
Silk:—Waste, Knubs, and Husks	cwts.	1,087
Thrown	lbs.	216,903
Silk Manufactures of Europe:—		
Broad Stuffs: Silk or Satin	lbs.	14,446
Broad Stuffs: Gauze, Crape, and Velvet	„	11,904
Ribbons of all kinds	„	13,709
Silk Manufactures of India:—		
Bandannas, Corahs, Choppas, Tussore Cloths, Romals, and Taffaties	pieces	77,798
Spices:—Cinnamon	lbs.	812,533
Pepper	„	10,911,684
Spirits:—Rum	prf.galls.	2,447,724
Brandy	„	861,134
Mixed in Bond	„	666,436
Sugar:—Unrefined	cwts.	428,360
Refined, and Candy	„	26,309
Molasses	„	42,206
Tallow	„	33,554
Tea	lbs.	26,219,654
Tobacco:—Stemmed	„	469,198
Unstemmed	„	9,943,130
Manufactured, and Snuff	„	2,102,531
Wine:—Red	galls.	824,997
White	„	1,432,079
Mixed in Bond	„	42,697
Wool:—Sheep and Lambs', Produce of British Possessions	lbs.	49,344,277
Foreign	„	14,582,540
Alpaca and the Llama Tribe	„	1,144

19. EXPORTS of the PRINCIPAL and OTHER ARTICLES of BRITISH and IRISH PRODUCE and MANUFACTURES in the Year ended December 31, 1863.

		Quantities.	Declared Value. £.
Alkali:—Soda	cwts.	2,118,552	867,494
Apparel and Slops	value	. .	2,807,656
Arms, Ammunition, and Military Stores:—Fire-arms (small)	number	437,842	852,592
Gunpowder	lbs.	15,791,659	461,986
Of all other kinds (except Lead Shot included in Lead)	value	. .	260,289
Bacon and Hams	cwts.	73,860	253,166
Bags, empty	dozens	894,511	535,785
Beef and Pork	cwts.	24,389	54,704
Beer and Ale	barrels	499,518	1,776,763
Books, Printed	cwts.	33,201	457,139
Butter	„	102,496	471,299
Candles, Stearine and Composite	lbs.	4,649,152	189,826
Cheese	cwts.	41,417	157,525
Coals, Cinders, and Culm	tons	8,272,988	3,708,221
Cordage and Twine	cwts.	165,681	427,227
Cotton Yarn	lbs.	74,642,146	8,019,954
Cotton Manufactures:—			
Piece Goods of all kinds, Plain, Printed, or Coloured	yds.	1,706,572,858	37,541,485
White or Plain	„	1,108,681,903	23,291,484
Printed, Dyed, or Coloured	„	598,490,955	14,250,001
Lace and Patent Net	value	. .	448,568
Hosiery:—Stockings	doz. pairs	699,350	244,959
Of other kinds	value	. .	184,253
Counterpanes and Small Wares	„	. .	263,163
Thread for Sewing	lbs.	4,402,582	741,582
Earthenware and Porcelain	packages	233,729	1,334,275
Fish:—Herrings	barrels	441,248	502,921
Other sorts	value	. .	268,529
Furniture, Cabinet and Upholstery Wares	„	. .	302,016
Glass:—Flint	cwts.	97,009	299,093
Window	„	64,391	78,146
Common Bottles	„	611,200	308,934
Plate	sq. feet	581,555	69,585

		Quantities.	Declared Value. £.
Haberdashery and Millinery	value	. .	4,362,319
Hardwares, &c.	,,	. .	3,826,784
Cutlery	,,	. .	319,654
Manufactures of Steel, or of Steel and Iron combined	,,	. .	471,056
Manufactures of German Silver, of Pewter, and Britannia Metal, of Papier Maché, Lamps, Chandeliers and Candelabra, and Hardware not specifically described	,,	. .	3,036,074
Hats of all kinds	dozens	240,511	444,052
Horses	number	5,235	271,380
Jute:—Manufactures, not made up	yds.	11,006,434	208,625
Manufactures, made up	value	. .	35,024
Yarn	lbs.	7,491,327	155,618
Leather, Tanned, Tawed, or Dressed, Unwrought	cwts.	46,047	438,735
Wrought, Boots and Shoes	pairs	4,436,734	1,393,841
Wrought, of other Sorts	lbs.	646,442	145,569
Saddlery and Harness	value	. .	341,618
Linen Yarn	lbs.	38,553,643	2,535,728
Linen Manufactures:—Piece Goods of all kinds	yds.	180,395,967	5,921,308
Thread	lbs.	4,255,799	526,818
Hosiery and other Goods entered at value	value	. .	61,844
Machinery:—Steam Engines	,,	. .	1,586,155
Other sorts	,,	. .	2,778,868
Metals:—Iron: Pig and Puddled	tons	468,561	1,296,361
,, Bar, Angle, Bolt, and Rod	,,	329,285	2,560,237
,, Railroad, of all sorts	,,	449,657	3,290,319
,, Wire (except Telegraphic Wire)	,,	19,565	390,983
,, Castings	,,	82,344	732,253
,, Hoops, Sheets, and Boiler Plates	,,	140,037	1,682,685
,, Wrought, of all sorts	,,	109,824	2,171,119
,, Old, for re-manufacture	,,	13,872	51,614
,, Steel, Unwrought	,,	28,772	935,906
Copper: Unwrought, in Ingot, Cakes, or Slabs	cwts.	256,443	1,190,394
,, Wrought or partly Wrought, Bars, Rods, Bottoms, Pans, Plates, Sheets and Nails; and Mixed or Yellow Metal for Sheathing	,,	592,552	2,729,406
,, Wrought, of other sorts	,,	11,395	71,200
Brass of all sorts	,,	47,975	242,075
Lead: Pig, Rolled, Sheet, Piping, Tubing, and Lead Shot	tons	36,124	776,067
Lead Ore, Red and White Lead, and Litharge of Lead	,,	6,563	158,774
Tin, Unwrought	cwts.	87,626	508,262
Tin Plates	,,	1,116,282	1,311,850
Zinc or Spelter, Wrought or Unwrought	,,	106,531	107,637
Oil, Seed	gallons	5,868,553	1,003,778
Painters' Colours	value	. .	452,388
Paper and Pasteboard of all kinds, except Paper Hangings and Manufactures of Papier Mâché	cwts.	164,910	556,519
Pickles and Sauces	value	. .	388,708
Plate, Plated Ware, Jewellery, and Watches	,,	. .	462,676
Salt	tons	620,050	286,843
Silk, Thrown	lbs.	476,773	541,1&
Silk Twist and Yarn	,,	462,697	270,004
Silk Manufactures:—Stuffs, Handkerchiefs, and Ribbons, of Silk only (as registered previously to 1862)	value	..	789,223
Silk:— As registered from the commencement of 1862. Broad Piece Goods, Fancy Silks and Satins, Velvet and Grey Cloths of Silk only	yards	2,187,788	401,687
Handkerchiefs, Scarfs, Shawls, of Silk only	dozens	204,724	277,114
Ribbons of Silk only	lbs.	87,562	110,422
Other Articles of Silk only	value	. .	400,018
Silk Manufactures mixed with other Materials	,,	.	229,238

		Quantities.	Declared Value. £.
Soap	cwts.	198,276	256,200
Spirits, British	gallons	4,071,960	453,881
Stationery, other than Paper	value	. .	344,891
Sugar, Refined	cwts.	278,592	505,153
Telegraphic Wire and Apparatus	value	. .	317,239
Wool, Sheep and Lambs'	lbs.	8,288,489	692,158
Woollen and Worsted Yarn	,,	32,480,145	5,065,432
Woollen and Worsted Manufactures:—Cloths of all kinds, Duffels, and Kerseymeres, of Wool unmixed, or mixed with other materials	yards	28,026,005	4,006,012
Flannels	,,	7,866,635	502,888
Blankets	,,	8,082,440	791,542
Blanketing and Baizes	,,	1,344,712	117,130
Carpets and Druggets	,,	6,254,281	810,319
Shawls, Rugs, Coverlets or Wrappers, and Carpet Rugs	number	1,136,005	358,144
Worsted Stuffs of Wool only, and of Wool mixed with other materials, and Waistcoatings	yards	165,822,849	8,327,729
Hosiery, Stockings	doz. pairs	295,621	159,719
,, Other than Stockings	value	. .	289,149
Small Wares	,,	. .	156,210
Total Declared Value { Enumerated Articles			137,684,862
Unenumerated Articles			8,804,906
All Articles			£146,489,768

Of the total value of Exports 95,570,114*l.* were sent to foreign countries, and 50,919,564*l* to British Colonies and Possessions. Among the foreign countries the United States of America kept its rank as principal customer, the value of the exports being 15,351,626*l.*, and this does not include any of the Southern ports; the Hanse Towns are second, with 10,665,612*l.*; France decreased, and took only 8,667,138*l.*; Holland was next, with 6,317,562*l.*; and Italy (without the Papal ports) just below her, with 5,903,233*l.* Of British Possessions, the East Indies, including Singapore and Ceylon, took 22,557,493*l.*; Australia, 12,508,334*l.*; and the North American Colonies, 4,819,030*l.*

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20. British Shipping.—On December 31, 1863, the number of sailing vessels registered in the various ports of England and Wales was 7,318 under 50 tons, the tonnage of which was 229,956; and 12,950 above 50 tons, the tonnage 3,639,903. In Scotland the number was 1,108 under 50 tons, the tonnage 33,881; and 1,972 above 50 tons, the tonnage 552,890. In Ireland the vessels under 50 tons numbered 1,008, the tonnage 29,483; and those above 50 tons 1,104, the tonnage 169,871. In the Isle of Man and the Channel Islands, there were 493 vessels under 50 tons, tonnage 12,610; and 386 above 50 tons, tonnage 62,623. Total of sailing vessels, 26,339; total amount of tonnage 4,731,217,—an increase of 127 vessels and 334,708 tons over the preceding year. The steam vessels were,—in England, 759 under 50 tons, tonnage 17,431; and 989 above 50 tons, tonnage 433,853. In Scotland, 102 under 50 tons, tonnage 2,608; above 50 tons, 262, tonnage 92,188. In Ireland, 45 under 50 tons, tonnage 1,235; above 50 tons, 133, tonnage 48,458. In the Isle of Man and Channel Islands, the number of steam vessels was 8, of which 3 had only a collective burthen of 63 tons, the other 5 were above 50 tons, tonnage 1,02c. Total of steam vessels 2,229, tonnage 596,856, an increase of only 1 vessel but of 58,965 tons. The number of vessels registered in the year, in various British colonies and possessions, was,—in Europe, at Malta and Gibraltar, 248 sailing vessels, tonnage 38,646, and 4 steamers of 498 tons; in Africa, 292 sailing vessels, tonnage 41,961, and 5 steamers of 401 tons; in Asia, 876 sailing vessels, tonnage, 173,510, and steamers 50, tonnage, 11,294; in Australia, 1,541 sailing vessels and 140 steamers, of which 277 sailing vessels and 15 steamers belong to New Zealand, the tonnage of the whole 166,429; in the North American colonies, 6,056 sailing vessels, 723 less than in 1862, and 167 steam vessels, tonnage 758,751, an increase of more than 88,958 tons. In the British West Indies there were 1,128 sailing vessels and 13 steamers, tonnage 70,115, an increase of 200 vessels and 28,798 tons, nearly all of which was in the Bahamas. The total of colonial registered vessels, 10,520, tonnage, 1,289,355. The total number of British and colonial vessels, sailing and steamers, was 39,088, and the total tonnage 6,617,428, an increase of 1819 vessels, and 742,299 tons, as compared with 1862. In addition there were 300 foreign-built vessels, tonnage 223,223, registered at various ports of the United Kingdom.

21. RETURN of the SHIPPING employed in the Trade of the United Kingdom, exhibiting the NUMBER and TONNAGE of VESSELS that Entered Inwards and Cleared Outwards (including their repeated Voyages), separating British from Foreign Vessels, also Steam from Sailing Vessels, and distinguishing the Trade with each Country, in the Year 1863. [Sa. is for Sailing Vessels; St. is for Steam Vessels.]

COUNTRIES.		INWARDS. British.		INWARDS. Foreign.		OUTWARDS. British.		OUTWARDS. Foreign.	
		Ships.	Tons.	Ships.	Tons.	Ships.	Tons.	Ships.	Tons.
Russia	St.	162	95,096	24	16,366	173	99,959	29	18,976
	Sa.	1,534	333,871	1,780	359,128	1,277	271,495	1,068	198,835
Sweden	St.	99	44,423	40	12,919	74	34,338	35	10,192
	Sa.	359	69,195	2,070	390,990	262	46,835	1,533	284,136
Norway	St.	20	6,636	19	7,097	23	7,667	43	11,821
	Sa.	268	18,681	2,238	390,304	192	17,037	2,147	394,636
Denmark	St.	106	53,075	19	5,289	38	13,618	45	15,210
	Sa.	189	33,707	2,002	164,431	489	86,649	5,006	573,824
Prussia	St.	249	104,769	68	21,726	252	108,648	64	21,231
	Sa.	788	104,128	1,953	365,823	811	111,827	1,907	355,987
Germany	St.	796	298,943	351	206,305	803	300,883	311	131,031
	Sa.	1,316	255,529	2,020	238,414	1,296	231,804	2,024	221,078
Holland	St.	1,139	349,386	272	75,476	1,003	294,581	232	64,877
	Sa.	1,225	179,957	1,393	184,023	1,093	151,667	534	42,465
Belgium	St.	655	161,263	250	52,085	626	158,942	137	34,601
	Sa.	671	74,529	709	145,191	586	45,299	71	11,017
Channel Isles	St.	529	86,901	.	.	506	84,282	.	.
	Sa.	1,287	122,745	44	4,572	921	67,033	2	275
France	St.	3,210	694,896	409	57,997	2,912	648,647	95	25,994
	Sa.	4,843	566,652	5,307	520,711	4,833	575,011	4,462	333,647
Portugal	St.	154	69,360	6	3,046	163	62,141	1	392
	Sa.	1,017	130,986	227	35,701	714	103,675	305	52,256
Spain	St.	103	39,091	114	54,543	73	32,011	129	63,171
	Sa.	955	171,273	394	73,631	1,660	317,523	910	162,349
Gibraltar	St.	49	31,423	.	.	58	35,195	3	1,200
	Sa.	26	4,552	3	495	256	45,122	32	9,151
Italian States	St.	160	120,096	2	1,804	189	155,627	11	5,559
	Sa.	500	78,276	239	54,849	733	154,290	1,171	304,101
Malta	St.	9	5,287	.	.	25	26,999	.	.
	Sa.	17	4,723	4	1,037	140	43,715	104	33,638
Ionian Isles	St.	22	12,335	.	.	10	6,811	.	.
	Sa.	59	8,269	2	278	61	12,786	32	9,718
Greece	St.	18	11,398	1	518	3	1,429	.	.
	Sa.	59	8,757	4	716	28	6,347	36	10,649
Turkey	St.	74	77,049	2	1,329	77	77,277	2	420
	Sa.	403	102,093	304	94,561	229	53,735	224	66,124
Wallachia & Moldavia	St.	3	1,202	.	.	2	1,556	.	.
	Sa.	85	16,517	192	40,526	31	5,272	25	3,647
Syria	St.	3	2,221	.	.	2	1,604	.	.
	Sa.	22	5,841	8	2,136	19	5,135	10	2,501
Africa	St.	189	189,188	2	1,429	143	140,433	4	1,830
	Sa.	742	222,452	257	72,950	843	260,582	444	130,152
Asia	St.	14	16,603	.	.	47	28,464	.	.
	Sa.	1,196	938,893	178	135,054	1,783	1,379,418	371	224,647
America:—									
British N. Colonies.	St.	50	58,901	1	663	53	57,829	.	.
	Sa.	1,921	1,064,103	398	191,319	1,563	832,594	166	72,511
British W. Indies	St.	16	10,034	.	.	77	31,072	.	.
	Sa.	856	266,399	73	25,583	785	237,357	71	20,543
Foreign W. Indies	St.	29	46,579	.	.	45	56,697	.	.
	Sa.	351	106,882	287	80,310	386	125,498	445	127,356
United States	St.	208	332,614	1	1,436	206	326,786	49	82,247
	Sa.	489	271,724	749	600,390	407	265,137	687	603,280
Central and SthrnStates	St.	32	33,101	.	.	31	30,440	3	401
	Sa.	843	307,409	341	132,766	873	298,322	469	155,526
Falkland Isles	Sa.	2	500	.	.	6	1,838	1	220
The Whale Fisheries	St.	9	3,381	.	.	12	4,163	.	.
	Sa.	21	6,252	.	.	30	8,144	.	.
Total		30,151	8,430,146	24,757	4,825,917	29,933	8,589,246	25,450	4,893,424

22. COLONIAL TRADE.—The number and tonnage of vessels that entered and cleared from the various ports in the United Kingdom in the year 1863, from and to the British colonies, were—*Inwards*, in England, British, 4,535 sailing vessels, tonnage 1,980,649; steam vessels, 681, tonnage 211,949; foreign, 590 sailing vessels, tonnage 306,787, and 1 steam vessel, tonnage 663. In Scotland, British, 523 sailing vessels, tonnage 238,571; steam vessels, 18, tonnage 18,419; foreign, 38 sailing vessels, tonnage 18,507. In Ireland, British, 273 sailing vessels, tonnage 114,374; foreign, 53 sailing vessels, tonnage 17,611. In the Isle of Man and the Channel Islands, British, 35 sailing vessels, tonnage 6,919; foreign none. *Outwards*, from England, 4,710 sailing vessels, tonnage 2,182,734; steam vessels, 785, tonnage 279,848; foreign, sailing vessels, 627, tonnage 297,576; steam vessels, 3, tonnage 1,200. From Scotland, British, 656 sailing vessels, tonnage 312,042; steam vessels, none; foreign, 46 sailing vessels, tonnage 23,180. From Ireland, British, 200 sailing vessels, tonnage 91,979; steam vessels, none; foreign, 42 sailing vessels, tonnage 17,131. From the Isle of Man and the Channel Islands, British, 61 sailing vessels, tonnage 8,332; steam vessel, 1, tonnage 105; foreign, sailing vessel, 1, tonnage, 216. The total number of British ships entered inwards was 6,065, tonnage 2,570,881,—an increase of 150 vessels, and 135,121 tons, over 1862; of foreign there were 682 vessels, tonnage 341,568,—an increase of 166 vessels, and 51,688 tons, over 1862. Of British ships cleared outward, there were 6,351, tonnage 2,846,603; of foreign, 718 ships, tonnage 339,087,—an increase of 349 British vessels, and 294,069 tons; of foreign vessels there was an increase of 49, and of 41,999 tons.

23. COASTING TRADE.—The number and tonnage of vessels that entered and cleared coastwise, during the year 1863, was, to various ports in England, including their repeated voyages—*Inwards*, British, 84,916 sailing vessels, tonnage 6,696,644; steam vessels, 17,698, tonnage 4,706,985; foreign sailing vessels, 414, tonnage 78,025; steam vessels, 4, tonnage 947. In Scotland, British sailing vessels, 14,153, tonnage 933,559; steam vessels, 6,618, tonnage 1,476,358; foreign, sailing vessels, 31, tonnage 2,279. In Ireland, British sailing vessels, 19,232, tonnage 1,502,930; steam vessels, 7,018, tonnage 2,149,159; foreign sailing vessels, 6, tonnage 646. In the Isle of Man, sailing vessels, 1,607, tonnage 99,942; steam vessels, 96, tonnage 20,503. There were no foreign steam vessels, either inwards or outwards, to or from Scotland, Ireland, the Isle of Man, or the Channel Islands. *Outwards*, from various ports in England, British, sailing vessels, 100,769, tonnage 7,931,848; steam vessels, 17,119, tonnage 4,407,420; foreign, sailing vessels, 316, tonnage 49,766, and no steam vessel. From Scotland, British, sailing vessels, 15,451, tonnage 996,333; steam vessels, 6,526, tonnage 1,463,017; foreign, sailing vessels, 28, tonnage 3,380. From Ireland, British, sailing vessels, 6,079, tonnage 376,941; steam vessels, 7,241, tonnage 2,283,159; foreign, sailing vessels, 62, tonnage 14,142. Isle of Man, sailing vessels, 783, tonnage 55,585; steam vessels, 80, tonnage 17,037. Total—*Inwards*, British, 151,338 vessels, tonnage 17,585,080; foreign, 455 vessels, tonnage 81,897. *Outwards*, British, 154,040 vessels, tonnage 17,531,340; foreign, 406 vessels, tonnage 67,288. There has been a decrease of the British shipping, on the whole, of 6,565 vessels and an increase of 174,972 tons; showing, as does the general statement of the shipping, a prevalence of the use of larger ships. The foreign vessels show, on the contrary, with an increase of 72 ships, a decrease in tonnage of 14,793 tons.

24. TRADE OF IRELAND.—The imports into Ireland in the year 1863 were valued at 6,777,984*l.*, or 1,165,962*l.* less than in 1862. The exports from Ireland to foreign countries of British and Irish produce and manufactures, for the same period, was 185,299*l.*; of foreign and colonial merchandise, 8,495*l.*; a total of 193,794*l.*; a decrease of 18,083*l.* from that of the previous year.

25. THE INDIAN TRADE.—The value of the British produce and manufactures exported to India was larger in 1863 than in any former corresponding period; the total being 19,995,657*l.*, against 14,617,673*l.* in 1862, 16,411,756*l.* in 1861, and only 4,551,449*l.* in 1848. India, therefore, has become a largely increased consumer of British goods since she was brought into connection with the Home Government. The additions to the exports to India are no doubt to some extent attributable to the railway works which have been carried on since 1857; and the establishment of railway communication must give a further stimulus to India generally. As regards the relative importance of the business done in the three presidencies, it may be noted that Bombay and Scinde last year took British goods to the value of 8,923,104*l.*, Madras to the value of 1,695,134*l.*, and Bengal and Pegu to the value of 9,377,419*l.* There was an increase in the movement of British goods to all three presidencies, the augmented demand being especially noticeable in Bombay and Scinde.

26. BRITISH FISHERIES.—The annual report of the Fishery Commissioners shows that the herring fishery of 1863 had given a total of 654,816 barrels cured, 276,880 branded, and 407,761 exported. The numbers are considerably less than in 1862, which was an extraordinary year. The experiment of fishing for herrings upon the ocean coasts in winter was repeated, and extended, with success. The cod and ling fishery show an increase in the quantity cured, which was 129,725cwt., and also in the total quantity exported, which rose to 53,736 cwt. Experience has shown that the high anticipations formed of Rockall for the fishing of cod and

ling were illusory, and that its exposed position and other disadvantages will prevent its ever becoming the valuable fishing bank which at one time it was expected to be. In the year 1863, 13,191 boats, manned by 43,358 fishermen and boys, were employed in the herring and cod and ling fisheries, and the estimated value of the boats, nets, and lines was 845,724*l.*, an increase of 47 boats as compared with the previous year, and of 34,369*l.* in value, but a decrease of 150 in the number of hands. Boats and nets are improving, and fishermen are becoming more thrifty and a better conducted class of men.

27. VESSELS BUILT, &c.—In 1863 there were built and registered in the United Kingdom 739 timber sailing vessels, tonnage 145,962, and 39 timber steam vessels, tonnage 2,114; 142 iron sailing vessels, tonnage 107,074, and 240 iron steam vessels, tonnage 105,837; a total of 1160 vessels, tonnage 360,987, an increase of 201 vessels, and 138,535 tons over 1862. The ships built in British possessions, and registered as British, were 789, with a tonnage of 235,689, all of which were timber. The number of colonial-built vessels, registered in British ports, was 51, tonnage 38,809, all from North American colonies. Of foreign-built vessels registered 300, tonnage 223,223. There were 97 sailing vessels and 34 steam vessels, of an aggregate tonnage of 13,386, broken up in the course of the year,

28. WRECKS.—The Board of Trade returns state the number of wrecks in the year 1863 as 737, the tonnage of which was 172,191. The Annual Report of the National Lifeboat Institution states that on our own coasts there were 2,001 wrecks, collisions, and other casualties. Of these 1649 were British ships, and 272 foreign; of the total, 503 were total wrecks, 67 were sunk by collision, a total of 570; and 331 were damaged by collision. The greater number of casualties happen to vessels of the collier class, and of such, laden with coal, iron, or copper ore, and stone, laden or light, there were 1089 out of the total. The next largest class are fishing-smacks, which contribute 689. Ships with passengers or general cargo furnish only 48, and 275 timber-loaded vessels and vessels (not colliers) in ballast complete the list. It is very unsatisfactory to find that very many of the casualties are attributed to "bad look-out," "unsound gear," and "negligence." The loss of life, as far as could be ascertained, was 620, while 5,096 persons were saved by life-boats, fishing-boats, rocket-apparatus, and other means. Of those saved, 417 were by the life-boats of the Institution, which distributed 1497*l.* in rewards during the year, and spent 13,819*l.* on the various establishments of the United Kingdom. The life-boats on our coasts amount now to 182 of the most efficient character; and the mortar-and-rocket-apparatus is furnished to 239 places, under the management of the Board of Trade and the coast-guard men.

29. BRITISH SPIRITS.—In the year 1863 there were distilled in the United Kingdom 25,085,236 gallons of proof spirits, an increase of 118,276 gallons over that of 1862. The quantity entered for consumption was, in England, 10,561,205 gallons; in Scotland, 4,693,950 gallons; in Ireland, 3,862,937 gallons; a total of 19,118,092 gallons, on which the duty was 9,974,833*l.* The quantity permitted for exportation was 3,689,965 gallons. During the year the Excise sold 53,368 gallons of methylic alcohol, and 607,114 gallons of methylated spirits were sent out by persons licensed to sell the same.

30. COTTON.—The total amount imported in 1863 was 660,583,264 lbs. against 523,973,296 lbs. in 1862, and 241,352,496 lbs. were exported. Of the total only 6,394,784 lbs. came from the United States, 434,420,784 lbs. from British possessions in the East Indies, 107,358,944 lbs. from the Mediterranean (chiefly from Egypt), 22,603,168 lbs. from Brazil, 19,278,112 lbs. from Mexico, 32,328,240 lbs. from the Bahamas, Bermudas, the British West Indies, and Guiana, 30,856,336 from China, and 16,343,600 lbs. from other places.

31. — WOOL. — The total quantity imported in 1863 was 177,377,664 lbs., against 171,943,472 lbs. in 1862; and 69,927,961 lbs. of imported wool were exported. Of the total, 77,173,446 lbs. came from British Settlements in Australia, 20,670,111 lbs. from British Possessions in the East Indies, and 20,166,617 lbs. from British Possessions in Africa. Spain sent 256,115 lbs., Germany, 8,621,087 lbs.; other countries in Europe, 25,454,798 lbs.; South America, 18,248,181 lbs., and other countries 6,787,309 lbs. A total of 118,010,174 lbs. from British Possessions, and 59,367,490 from foreign parts, or very nearly two-thirds from British Possessions, showing a considerable increase of the product. In this return alpaca wool is included.

32. SUGAR.—The total quantity imported in 1863 was 9,901,008 cwts., of which 5,241,487 cwts., or more than half, was from British Possessions, all of which was entered for home consumption.

33. FRENCH LINEN YARN.—In the year ending with May, 1863, the import was only 461,366 lbs., of the value of 16,193*l.*; in the year ending with May, 1864, the quantity was 4,082,646 lbs., of the value of 164,543*l.*, an enormous increase, required by the increased production of linen. On the other hand, the import of jute yarn fell from 877,011 lbs., of the value of 16,609*l.*, to 293,213 lbs., of the value of 10,210*l.*, owing to the adoption of the manufacture in the United Kingdom, especially in Scotland, from the raw material. Of cambrics and French lawns there were imported, in 1863, 58,285 square yards, of the value of 9,473*l.*

34. MALT.—The duty on malt in the year 1863 amounted to 6,273,727*l.*; and a draw-

back was paid of 220,844*l.* on malt exported, of which 270,675 bushels were exported as malt, and 1,360,274 bushels in the shape of beer.

35. HOPS.—The importation of foreign hops does not increase. The quantity in the year ending March 31, 1863, was 163,852 cwts.; in 1862-4 it was 209,709 cwts. The quantity of foreign hops exported was 8,836 cwts., and of British hops 26,276 cwts. Of the imports 120,490 cwts. came from the northern ports of the United States, and Hamburg and Bremen sent 90,594 cwts. Of the exports 20,225 cwts. were to British North America.

36. GUANO.—The imports of guano in 1863 have been on a larger scale than in any previous 12 months since 1858; the computed value being 2,658,856*l.* The quantity received was 233,574 tons. In 1858 the quantity was 353,541 tons, and the cost 3,613,074*l.*

IV.—CRIME, POLICE, AND LAW.

[The Judicial Statistics of Ireland having now been published in a complete form, they will be found after those of England, at page 239.]

37. CRIMINAL OFFENCES, SCOTLAND.—The returns of criminal offenders in Scotland, for 1863, show that the total number of persons committed for trial, or bailed, in Scotland, for the year were 3,404, of whom 2,481 were males and 923 were females, a decrease from 1862 of 146 males and 80 females. Of these 3,404 offenders, 642 could neither read nor write, and 2,069 could only read and write imperfectly, 591 could read and write well, 93 had received a superior education, and of the other 9 the education was not known. As to the nature of the offences, they are thus classed in the tables:—Offences against the person, 822; against property, committed with violence, 495; against property, without violence, 1,717; malicious offences against property, 53; forgery and offences against the currency, 82; other offences not included in the foregoing classes, 235, showing a decrease in every class except in forgery and offences against the currency, and in offences against property with violence, in which the numbers were the same, and a decrease of a little more than 6 per cent. on the whole. Of the 3,404 offenders, 674 were discharged without trial; 2,730 were tried, and of these 2,438 were convicted, 11 were outlawed, 1 was found insane on arraignment, and 1 was found insane on trial, and there were 279 found not guilty, or "not proven." Of the punishments, there was 1 for murder sentenced to death, but commuted to penal servitude for life, as were 2 others, 215 to periods of penal servitude varying from 15 years to 3 years; 1,944 to periods of imprisonment, varying from 2 years to 1 month; and 774 to less than 1 month; 25 were ordered to be detained in reformatory schools, and 219 to be whipped, fined, or discharged on sureties. Lanarkshire, with 774 offenders, and Edinburghshire, with 412, still stand in numbers at the head of the counties; Forfar, with 237; Renfrew, with 227; Fife, with 163; Roxburgh and Inverness, with 146 each; and Aberdeen, with 109; Argyll, Ayr, and Selkirk, with 101 each, and Peebles, with 100, follow; no others supply 100, while Kinross sends only 3, and Nairn 6. In Caithness the numbers rose from 48 to 60, in Orkney and Zetland from 67 to 82; in most of the other counties there was a decrease. The year 1863 shows a decrease of 126 committals, from those of 1862, and of 252 convictions.

38. POLICE, SCOTLAND.—On March 15, 1864, the police of Scotland consisted of 953 men and officers for the counties—being 1 for every 1,920 of the population; and of 1,698 for the burghs and cities, 1 for every 686 of the inhabitants. All the counties except Ross-shire are reported as being efficiently provided with police; but 19 burghs, 2 of which have a population above 5,000, are reported inefficient. The report states the number of vagrants as 61,647, including women and children, a very slight decrease from the returns ending March 15, 1863.

V.—POOR LAWS, POPULATION, ETC.

39. POOR RELIEF, ENGLAND.—The annual Report of the Poor Law Board states that owing to the distress in the cotton districts the expenditure for relief of the poor in England and Wales in the year ended at Lady-day, 1863, amounted to 6,527,036*l.*, being more by 449,511*l.* than in the previous year, rising from 6*s.* per head of (estimated) population to 6*s.* 4½*d.* The expenditure for all England, *minus* those districts, was less than in the previous year. The mean number of adult able-bodied paupers (exclusive of vagrants) in receipt of relief in the year rose to 221,749, or more than a fifth of the entire number of paupers. The mean number of paupers of all classes, including children, in receipt of relief, was 1,079,382, or 5·3 per cent. of the estimated population.

40. Summary of the Amounts Expended for In-maintenance and Out-door Relief, during the Half-Year ended at Lady-day, 1864, in 655 Unions and Single Parishes, under Boards of Guardians.

Divisions and Union Counties.	Unions and Single Parishes.	Number of Parishes.	Population, 1861.	Cost of In-maintenance and Out-door Relief.		
				In-maintenance.	Out-door Relief.	Total.
I.—The Metropolis.				£.	£.	£.
1. Middlesex (part) .	28	162	2,029,192	117,702	75,158	192,860
2. Surrey (part) . .	9	17	579,748	27,187	25,593	52,780
3. Kent (part) . . .	2	11	193,427	6,909	10,099	17,008
Totals . .	39	190	2,802,367	151,798	110,850	262,648
II.—South-Eastern.						
2. Surrey (part) . .	11	136	258,946	9,650	23,422	33,072
3. Kent (part) . . .	26	418	543,549	21,735	43,800	65,535
4. Sussex	22	287	341,827	14,578	37,526	52,104
5. Southampton . .	26	345	455,587	19,286	48,268	67,554
6. Berks	12	240	205,625	7,698	22,269	29,967
Totals . .	97	1,426	1,805,534	72,947	175,285	248,232
III.—South-Midland.						
1. Middlesex (part) .	6	58	187,325	7,837	12,140	19,977
7. Hertford	12	165	177,452	6,737	20,514	27,251
8. Buckingham . .	7	195	147,186	4,104	21,551	25,655
9. Oxford	9	294	171,057	4,616	21,868	26,484
10. Northampton . .	12	332	230,964	4,979	31,016	35,995
11. Huntingdon . . .	3	88	59,137	1,534	7,204	8,738
12. Bedford	6	137	140,476	3,415	15,649	19,064
13. Cambridge . . .	9	174	181,552	5,763	28,632	34,395
Totals . .	64	1,443	1,295,149	38,985	158,574	197,559
IV.—Eastern.						
14. Essex	17	372	379,699	16,388	46,444	62,832
15. Suffolk	17	530	335,409	9,037	39,515	48,552
16. Norfolk	22	739	427,060	15,118	53,219	68,337
Totals . .	56	1,641	1,142,168	40,543	139,178	179,721
V.—South-Western.				£.	£.	£.
17. Wilts	18	315	236,027	7,405	34,244	41,649
18. Dorset	12	287	182,193	3,368	23,962	27,330
19. Devon	20	474	589,159	11,557	61,300	72,857
20. Cornwall . . .	13	221	362,409	5,438	24,017	29,455
21. Somerset . . .	17	495	463,286	10,519	53,780	64,299
Totals . .	80	1,792	1,833,074	32,287	197,303	235,590
VI.—West-Midland.						
22. Gloucester . . .	17	363	442,983	13,789	41,249	55,038
23. Hereford . . .	7	218	106,796	1,903	12,914	14,817
24. Salop	16	302	260,225	5,626	15,235	20,861
25. Stafford	17	276	768,369	13,464	36,329	49,793
26. Worcester . . .	11	233	294,901	5,320	19,487	24,807
27. Warwick	14	272	561,334	13,753	37,348	51,101
Totals . .	82	1,664	2,434,608	53,855	162,562	216,417

SUMMARY—*continued.*

Divisions and Union Counties.	Unions and Single Parishes.	Number of Parishes.	Population, 1861.	Cost of In-maintenance and Out-door Relief.		
				In-maintenance.	Out-door Relief.	Total.
VII.—NORTH-MIDLAND.						
28. Leicester . . .	11	349	243,611	6,144	22,998	29,142
29. Rutland	2	67	23,479	585	2,508	3,093
30. Lincoln	14	750	403,850	8,996	47,415	56,411
31. Nottingham . . .	9	305	323,784	7,422	27,422	34,844
32. Derby	9	277	293,223	4,509	19,718	24,227
Totals . .	45	1,748	1,287,947	27,656	120,061	147,717
VIII.—NORTH-WESTERN.						
33. Chester	12	469	469,577	8,035	37,619	45,654
34. Lancaster . . .	28	454	2,453,910	61,650	226,653	288,303
Totals . .	40	923	2,923,487	69,685	264,272	333,957
IX.—YORK.						
35. West Riding. . .	35	610	1,420,107	21,786	86,948	108,734
36. East Riding . . .	10	373	273,674	5,649	15,826	21,475
37. North Riding . .	15	481	205,452	3,213	15,625	18,838
Totals . .	60	1,464	1,899,233	30,648	118,399	149,047
X.—NORTHERN.						
38. Durham	15	314	542,125	6,160	31,401	37,561
39. Northumberland .	12	540	342,991	5,898	31,093	36,991
40. Cumberland . . .	9	208	205,264	5,185	13,810	18,995
41. Westmoreland . .	3	110	60,946	1,578	4,351	5,929
Totals . .	39	1,172	1,151,326	18,821	80,655	99,476
XI.—WELSH.						
42. Monmouth . . .	6	164	196,977	3,649	19,529	23,178
43. South Wales . .	28	683	699,649	8,097	81,151	89,248
44. North Wales . .	19	371	414,402	4,741	63,440	68,181
Totals . .	53	1,218	1,311,028	16,487	164,120	180,607
TOTALS	655	14,681	19,885,921	559,712	1,691,259	2,250,971
Residue of the Kingdom	.	205	180,303			
Totals of England and Wales	.	14,886	20,066,224			

41. POOR RELIEF, SCOTLAND.—In 1862-3, of the 884 parishes in Scotland, 120 remained unassessed, and relieved their poor chiefly by voluntary contributions and church collections; but all gave returns of the number of persons relieved, and the amount expended in relief. For the year ending May 14, 1863, the total expenditure had been 736,027*l.*, of which 589,133*l.* was for the relief of the registered and casual poor; 26,626*l.* for medical relief; 77,917*l.* for management; 9,710*l.* for law expenses; 28,433*l.* for buildings being authorised poor houses; and 2,747*l.* on buildings not authorised poor houses. The total number of persons relieved was 99,695 of the registered poor, of whom 28,077 were males, and 71,618 females, with 58,864 dependents; and the total of unregistered or casual poor relieved in the year was 97,632. There had been 18,063 persons vaccinated by the medical officers in the year ending Dec. 31, 1862, of whom 12,821 were in receipt of poor relief. The total receipts for the year had been 750,182*l.*, of which 692,555*l.* had been raised by assessment, 19,158*l.* by voluntary contributions and church collections, and 38,469*l.* from mortifications and other sources.

42. PAUPER LUNATICS, SCOTLAND.—Of poor insane or fatuous there were 6,266, of whom 2,884 were males and 3,382 females. Of the total, 1,054 (507 males and 547 females) had died, been cured, or ceased to receive relief during the year. Of the 5,212

remaining, 3,619 were in asylums or poor houses, and 1,593 were in private dwellings. The expenditure on the lunatic poor had amounted to 95,744*l.*

43. Poor Relief, Ireland.—In the year ending Sept. 29, 1863, the total expenditure on poor relief was 605,981*l.*, of which 380,737*l.* were for in-maintenance and clothing, 18,372*l.* were for out-door relief, 96,222*l.* for salaries and rations of officers, and 110,650*l.* for other expenses. The expenses under the Medical Charities Act were 109,206*l.*, which, with expenses under the Burial Grounds Act and repayments under Annuities Acts, raised the total expenditure from the poor's rate to 716,523*l.*, an increase over that of 1862 of 30,747*l.* The amount collected had been 723,843*l.* The total numbers relieved in the year had been 288,285 in the house, 28,911 out-door, and 428 in blind or deaf and dumb asylums. In the six months ending Sept. 29, there were relieved in the workhouse, of able-bodied adults, 2,482 married couples, 34,284 males, 42,829 females, and 38,218 of their children under 15, of whom 14,179 were illegitimate; of inmates not able-bodied there were 801 married couples, 24,204 other males, 20,381 other females, 3,206 children under 15 belonging to them, of whom only 471 were illegitimate, and 13,692 orphans or other children, relieved without their parents; and 2,720 lunatics and idiots, of whom 1,160 were adult males, 1,462 females, and 98 children under 15. The deaths in the workhouse during the year has been 13,396, the births 2,977. Under the Medical Charities Act there had been issued 697,687 dispensary tickets, and 192,929 tickets for visiting patients at their homes; the total cost was 109,206*l.*, including 4,711*l.* for vaccination cases.

44. Births, Deaths, and Marriages, England—In the year 1863, according to the Registrar-General's Returns, there were registered 729,399 *Births*, 35,993 more than in 1862, which had been the highest amount ever reached in England. Of the total number 373,077 were males and 356,322 females. In the year there had been 173,388 *Marriages*, 9,682 more than in 1862; and there had been 475,582 *Deaths*, 40,468 more than in 1862. Of the deaths 243,249 were of males, and 232,233 of females. Of the marriages the greatest numbers took place in the quarter ending Dec. 31; of the births in the quarter ending June 30; and of the deaths in the quarter ending March 31.

45. Births, Deaths, and Marriages, Scotland.—In the year 1863 there were 109,325 *births*, of which 56,305 were males and 53,020 were females, and of the total number 10,859 were illegitimate. The greatest number of births, 10,094, occurred in May; the smallest recorded number, 8,392, in November. The total of *deaths* was 71,421, an increase of 4,262 from the deaths of 1862. Of the total, 35,651 were males, and 35,770 were females. The greatest number of deaths occurred in March, 6,689; the fewest, 5,514, in September. The number of *marriages* was 22,087, of which 3,192 took place in June, and 1,101 in May; but December still keeps a high rank, having 2,791 marriages, while May continues to have the fewest. In the town districts the death rate was 2·72 per cent., and the birth rate 3·83; in the rural districts the death rate was 1·83 per cent., and the birth rate 3·18. The weather of the year was remarkable for the little variation of temperature, the night temperature being higher and the day lower than usual, and the summer months less hot, and the winter less cold than usual; a certain amount of variation of temperature is beneficial to the general health.

VI.—Emigration and Colonial Statistics.

46. Emigration.—The Twenty-fourth Annual Report of the Emigration Commissioners states that in the year 1863 the number of persons emigrating from the United Kingdom was 223,758, of whom 129,480 were males, and 94,278 females; 165,663 were adults, and of these 19,987 of the males were married, and 76,474 were single; of the females, 23,881 were married, and 45,321 were single. Of children under 12 years of age and infants there were 38,844, of whom 19,993 were males, and 18,851 females; and there were 13,026 males and 6,225 females whose ages were not stated. Of the total number, 61,243 were English, 15,230 Scotch, 116,391 Irish, 7,833 foreigners, and 23,061 not distinguished; and of the whole, 146,813, or 65·6 per cent. went to the United States; 18,033, or a little more than 8 per cent., to British North America; 53,054, or nearly 24 per cent., to Australia and New Zealand; and 5,808, or 2·6 per cent., to other places. The emigration of 1863 exceeded that of 1862 by 102,544 souls, and far exceeded the average of the four previous years, but fell short of the emigration of 1855, 1856, and 1857. The excess occurred in all the places mentioned, but the proportion was largest to the United States, and was chiefly supplied from Ireland, whence the emigration exceeded that of 1862 by 66,711 souls. The Report states that a belief had arisen that the emigrants from Ireland had in large proportions gone out for the purpose of joining the Federal armies, but it shows that this could scarcely have been the case. The number of Irish single men was 36,083, and as all boys above 12 are included, a deduction must be made of at least 12 per cent. for boys between 12 and 18, so that "there would probably not remain more than from 20,000 to 25,000 single men, out of whom the Federal army would have a chance of obtaining recruits, and it is not

to be assumed that even a majority of these took service. The high rate of wages in private employ may reasonably be expected to have outweighed, in many cases, the temptation of the bounty." It adds—"The largeness of the emigration from Ireland is no doubt to be attributed to distress. Whenever that arises, the natural and ready escape is through emigration, for which the liberality of preceding emigrants affords ample means." The sums remitted in 1863, as far as the Commissioners have information, amounted to 412,053*l.* The mortality, as far as it had been ascertained, had been small. Of the 137,799 who embarked at Liverpool, 161 died on board sailing vessels, and 30 on board steam vessels. Of the 6,551 who embarked at ports on the Clyde, 1,827 went to Canada, 265 to the United States, without a death; and of the 2,459 to New Zealand, 21 died. But one vessel, the Lord Raglan, which sailed on Feb. 23, with 289 passengers, and 65 crew on board, has never reached its destination; on Feb. 23 the Bohemian was wrecked near Portland, and 43 lives were lost; on April 27, the steamer Anglo-Saxon was wrecked off the coast of Newfoundland, and 23 lives lost. The Commissioners notice the want of domestic servants in Australia, and state that during the year they have sent 1,688 single women to New South Wales, 346 to Queensland, 1,512 to Victoria, 67 to Western Australia, and 130 to New Zealand. To relieve the distress in Lancashire, New Zealand sent 10,000*l.* and Victoria 5,000*l.*, to assist the removal of the unemployed, but requiring men accustomed to out-door labour and women fitted for household service; this was difficult to comply with, but 643 were selected and despatched, and the selection met with the approbation of the colonial authorities.

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47. New South Wales.—The total quantity of lands sold in the year 1862 was 445,367 acres, and the produce was 481,304*l.*, of which, however, only 181,940*l.* was paid down; the whole exceeding that of 1861 by 64,635*l.* There were sold by auction 480 townland acres, at 25*l.* 5*s.* 6*d.* per acre, 1,420 suburban acres at 10*l.* 13*s.* 5*d.* per acre, and 29,720 country acres at 1*l.* 2*s.* 4*d.* per acre. There were 23,346 acres sold by selection at 1*l.* 1*s.* 2*d.* per acre; and 3,470 acres of improved lots at 2*l.* 3*s.* 4*d.*, per acre; sold by pre-emption, 30,619 acres at 1*l.* 0*s.* 11*d.*, and 357,280 acres sold conditionally at 1*l.* per acre, and a few acres were sold under special circumstances. Under the Crown Lands Occupation Act, 1861, there were pastoral leases granted of 81,411,000 acres at a rent and assessment reserved of 185,843*l.*; and on pre-emptive leases in the first-class settled districts of 8,117,300 acres, for which rent to the amount of 10,658*l.* had been received. Under the Gold Fields Act, 88,854*l.* had been received, of which 70,889*l.* was in the nature of rent, and the remainder for leases, miners' rights, licences," &c. The recapitulation gives—

Under Lands Alienation Act	£181,940
Under Occupation Act	196,501
Under Gold Fields Act	88,854
Miscellaneous	8,220
	475,515
Balance payable in 1863	31,405
Ditto in 1865	267,960
	£773,880

The total emigration from the United Kingdom in the year was 6,379 persons; of whom 5,162 were sent out by the Emigration Commissioners, holders of passage certificates issued by the colonial authorities on the application of residents in the colony; of these, 1,141 were English, 3,588 Irish, 423 Scotch, and 10 Germans; the mortality on the passage was 26, and 39 children were born, of whom 4 died. The population, at the close of the year 1862 was estimated at 367,495. The females in 1862 were 788 to every 1,000 males, the enormous excess of males in the voluntary immigration being to some extent corrected by the emigration of males to other colonies. In 1862, the last year in this return, the birth-rate was as high as 42 per 1,000, and the death-rate as low as 17·83, and both numbers were rather less favourable than the average. The natural increase in the year was 8,910, the immigration 15,386, and the efflux 15,079. The revenue reached 1,628,885*l.*, and the expenditure 1,608,810*l.*, excluding loans; the imports were 9,334,645*l.*, and the exports, 7,102,562*l.* The production of gold in 1862 rose to 2,212,534*l.*; calculating from the number of miners' licences—namely, 25,038—it would appear that the production of gold averaged 23 ounces (more than 88*l.*) per man in the year. The export of wool, the great staple produce of the colony, amounted to nearly 21,000,000 lb.; the number of sheep in the colony was 6,145,651, an increase over the previous year, notwithstanding the long drought of 1862, which led in many parts to the destruction of the lambs to save the lives of the mothers. The number of horned cattle, which has for years been constantly increasing, rose in 1862 to 2,620,383. The number of acres under cultivation had risen to 302,138. 117,854 acres were under wheat, 78,232 maize, 50,001 barley and oats, 32,010 sown grasses, and the year's return showed a new item—54 acres of cotton; 7,743 lb. were picked, 143 lb. per acre, notwithstanding an unfavourable season. The vintage of the year produced 144,888 gallons of wine, 182 per acre, which comes up very nearly to the average produce of the vineyards of France; 2,749 gallons of brandy also were manufactured. As many as 476,522 tons of coal were produced, and a large quantity exported to neighbouring colonies. The number of manufactories or works conducted by machinery was 859. In 1862 one person in every 24 was a depositor in a savings-bank, and the deposits amounted to the high average of nearly 48*l.*, without reckoning interest. The number of ministers of religion was 354, more than one-third of them clergy-

men of the Church of England, and one-fifth Roman Catholics. The churches and chapels had an average attendance approaching one-fourth of the population. Above 42,000 children were attending schools.

48. QUEENSLAND.—No return of the land sales in this colony has been received, but the Governor, in a despatch, states, that on Darling Downs, villages had grown into flourishing towns, new villages had sprung up where, in 1862, there was nothing but prairie, and that a great advance had been made in the houses and other buildings of the squatters, whose stock had been improved by importations from Europe, and that the stations "now carry each from 40,000 to 150,000 sheep, in addition to horses and cattle, and that the profits of the principal squatters probably vary from 4,000*l.* to 18,000*l.* annually." The land on the Downs is also well adapted for growing wheat, and on the coast for producing sugar, cotton, and other tropical products. Some gold fields had also been proclaimed. It had been intended to introduce Chinese, in order to facilitate the growth of cotton, but the project had been abandoned, and the cotton supply under present circumstances will be very limited. In September, 1862, an Act had been passed by the colonial legislature "To amend the law relating to the occupation of Crown lands for pastoral purposes." "It authorises the Governor," say the Commissioners, "with the advice of the Executive Council, to proclaim additional unsettled districts, and extend the limits of the settled districts; to grant leases within the settled districts on certain specified conditions for any term not exceeding five years; and within the unsettled districts for any term not exceeding fourteen years. It prescribes the mode of applying for runs, their area, the rent to be paid for them, and the mode of estimating the rent; and it provides for the renewal, under certain conditions, of expired leases. It also establishes general conditions for the regulation of all pastoral leases, whether in the settled or unsettled districts." The total emigration to the colony from the United Kingdom in the year had been 10,339; of these 1,426 were assisted emigrants, consisting of 799 males, of whom 525 were single men, and 627 females, of whom 346 were single women. Of the whole, 362 were English, 873 Irish, and 191 Scotch.

49. VICTORIA.—The Commissioners had received no account of the land sales for 1863, but they knew that the applications for land had been very numerous. The total emigration during the year from the United Kingdom had been 20,261 persons, of whom 10,587 had gone at their own expense. Of the assisted emigrants 7,091 went under the passage warrant system, and 2,583 were sent out by the Commissioners, consisting of 381 male adults, 1,874 female adults, and 328 children under twelve years of age. This number included 485 persons selected from the distressed manufacturing districts, for which purpose the colony had sent 5,000*l.*, and of these 332 were English, 39 Scotch, and 114 Irish. On board the ships freighted by the Commissioners 24 infants were born, and 23 deaths occurred during the passage, and of these only four were of adults. In June an Act was passed by the legislature suspending for two years the operation of a previous Act imposing a tax of 10*l.* on every Chinese entering by sea, and of 4*l.* on those entering by land; but the tax of 4*l.* per annum on residence is retained.

50. SOUTH AUSTRALIA.—The boundary of this colony having been extended to the west from 138° E. long. to 129°, as anticipated last year, an Act was passed for regulating the disposal of the newly-acquired lands. It enacts that 500,000 acres of country land, and 1,562 town lots of half an acre each, shall be reserved for sale; that one-half shall be offered, at offices opened in London and Adelaide for a limited time, at the price of 7*s.* 6*d.* per acre; the other half, with any undisposed of within the appropriated time of the first half, to be allotted to applicants at 12*s.* per acre. Of the lands not reserved for sale, leases may be granted for pastoral purposes for not more than fourteen years, in lots of not less than 25 nor more than 300 square miles, at the rate of 1*s.* per square mile for the first four years, of 2*s.* 6*d.* for the next five years, and of 5*s.* for the last five years. Leases for all minerals, except gold, are to be granted of sections not exceeding 320 acres at an annual rent of 10*s.* per acre, for periods not exceeding fourteen years, with the right of renewal for two further periods of fourteen years each, on payment of fines of not less than 20*s.*, nor more than 20*l.* per acre. Another colonial law gives power to justices of the peace to enforce contracts for service entered into in the United Kingdom, but to make the contract terminable after a year's service on repayment to the master of any expenses incurred by him in introducing the emigrant. The number of acres sold in 1862 was 129,910, a decrease of 17,444 acres from the sales of 1861; of these 85,636 acres were country sections, averaging 1*l.* 3*s.* 5¼*d.* per acre at sale by auction; 7,280 acres, special country lots, averaging 1*l.* 3*s.* 3*d.* per acre: 104 acres of town lots, average 27*l.* 5*s.* 3*d.* per acre; and 36,890 acres of country land were sold privately at 1*l.* per acre. The total amount realised was 148,695*l.*, which was 35,657*l.* less than in 1861. The crown lands under lease for pastoral purposes, at the end of 1862, amounted to 33,757 square miles; and many thousand square miles in addition were sold under claims for leases yet to be issued; the total rents of the lands with the assessment on stock was 77,049*l.*, and 3,078*l.* were received for depasturage of stock on waste lands within settled divisions. There were 258,342 head of horned cattle, 3,431,000 sheep, and the year's export of wool amounted to 13,229,909 lb., valued at 635,270*l.* Mining leases over an area of 7,337 acres were granted in 1862 at a yearly rent of 3,366*l.* 10*s.*; the total quantity held for mining purposes at the end of that year being 16,096

acres; and the value of the minerals (chiefly copper and copper ore) exported in the year was 547,619*l.* The number of immigrants in 1862 was 3,230, and 2,685 persons left the colony; in 1863 the emigrants sent from the United Kingdom numbered 1,898, of whom 1,700 were assisted out of the public funds; of the 1,700, there were 1,206 English, 374 Irish, and 120 Scotch. At the end of 1862 the population was estimated at 135,329, of whom 69,608 were males, and 65,721 were females. The imports during the year were valued at 1,820,656*l.* the exports at 2,145,796.

51. WESTERN AUSTRALIA.—In 1863 there were sold in this colony 5,372 acres, producing 2,851*l.*; and the proceeds of leases for 2,937,239 acres for pastoral purposes were 9,888*l.* The total proceeds from the land, including timber licences, &c., were 13,672*l.* The total number of immigrants in the year was 1,850, of whom 1,220 were convicts, with their pensioner guard and warders, 490 were free immigrants, and the remainder passengers from India or Australian colonies. Among those sent were 165 at the expense of the imperial funds, of whom 88 were English, 69 Irish, and 8 Scotch, and of these 50 were young women from the distressed manufacturers of Lancashire. Mr. Lefroy had explored the country between 29° 45′, and 32° 12′ S. lat., and 116° 46′ and 122° 3′ E. long., found the climate mild, with some well grassed spots and plenty of water in the dry season, and says that "few finer sheep runs are to be found in Australia than the vast plain which encircles Mount Burgess." More recently, Mr. Panter and Dr. Martin have explored other districts, and have found rich pastures, estimated at 12,000,000 acres; also timber, fruits, &c., pearls in the waters, and rivers abounding in fish.

52. TASMANIA.—In this colony the immigration only amounted to 38 in 1863. By an Act of 1863, it is decreed that the lowest price of land that has never been held under grazing licences shall be 5*s.* per acre, and for all other lands 1*l.* per acre; but if put up to auction, left unsold, and remaining so for three months, the price may be lowered; but facilities are afforded to purchasers by allowing the price to be paid by instalments extending over nine years. Land may also be let on leases for terms not exceeding fourteen years at 1*l.* for 100 acres of land previously let under a depasturing licence, and for other lands at 10*s.* for 100 acres. Provision is also made for the reservation of mineral lands, for agricultural lands, and for free grants on condition of settlement in the unsettled lands. In November, 1861, a lease had been granted of certain unoccupied islands lying between 18° 49′ and 23° 30′ S. lat., and 151° 20′ and 184° 2′ E. long. from which to procure guano. The imports of Tasmania in the year 1863 amounted in value to 902,940*l.*, an increase of 45,527*l.* over the previous year. The exports reached 999,511*l.*, an increase of 79,862*l.* There was also a marked increase in the shipping, the entries inwards amounting to 107,664 tons in 1862, and 117,681 in 1863, and the clearances outwards to 108,915 tons in 1862 and 116,143 in 1863. The stock of sheep, 1,661,225 at the end of 1862, was returned as 1,800,811 at the end of 1863. The total acreage under cultivation increased from 253,050 acres to 267,173. The great want was, and is, more people. The birth rate of the year was nearly 3·3 per cent., and the death rate only 1·5 per cent., but the estimated population at the end of the year, 91,519, was only 791 more than at its beginning, the gold fields of the neighbouring colonies attracting more to leave the island than the number of the arrivals, so that half the natural increase of population was lost.

53. NEW ZEALAND.—The emigration from the United Kingdom in 1863 amounted to 13,919 persons, including 643 selected from Lancashire by means of a sum voted by the province of Canterbury. But the gold discovery had led to a large influx to the province of Otago. In the year ending July 31, 1863, no less than 46,732 immigrants had arrived, chiefly from the neighbouring colonies, which supplied 36,133; of these 7,757 afterwards left, and in the whole 10,599 took their departure. Of this immigration 38,137 were adult males, and only 5,627 were adult females; this, say the Commissioners, detracts much from its value. The first discovery of gold was in 1861, but the discoveries since have multiplied at a rapid rate, and the yield in 1862-3, including what does not appear in the Escort Returns, is estimated at 4,042,000*l.* The principal fields are the Waikitapu, the Dunstan, and the Mapeka, in the Middle Island, and the average number of persons employed is 12,000. Eleven townships have been established in the gold fields, of which the most important has been named Queenstown. With the gold discoveries has come an immense increase of trade. The imports in 1862-3 had risen to 2,472,097*l.*, and the exports to 2,104,109*l.*, and the customs duties to 214,406*l.* In the Northern Island the war had rendered it necessary to increase the force at the disposal of the government. To effect this, a portion of the land of the Waikato tribe, now in rebellion against the crown, has been declared forfeited, and the government proposes to place on it a body of military settlers, willing to accept lands on condition of military service. Each individual on being released from actual service is to receive a grant of one town allotment and one farm section; the town lot to consist of 1 acre, the farm sections to vary from 400 acres for a field officer, to 50 acres for a private. These regulations are to come into operation at the end of the war. After a destructive war, the Maories submitted in August, 1864, and an increased development of the colonial resources may be reasonably hoped for.

54. CANADA.—The emigration agent, Mr. Buchanan, states, that the number of emigrants arriving by the St. Lawrence in 1863, was 19,419, of whom 4,830 were English 5,508 Irish, 3,949 Scotch, 3,047 Germans

1,416 Norwegians, &c., and 669 from other countries. The deaths on the passage from England had been only 4, and 22 among the Germans and Norwegians. Nearly all the Norwegians had proceeded to the Western States, and those who had settled in Gaspé in 1860 and 1861 had also gone. The number of steerage passengers who arrived in Canada are stated thus:—Landed at Quebec, 18,112 (we suppose these are included in the number given above); arrived by the Suspension Bridge and Detroit, 4,840; by Lake Ontario, 768; by Oswego, 3,196; by Lake Champlain, 465; by Portland, 1,338; a total of 28,719, of whom it is estimated 5,000 left for the United States. The remainder were settled: in Western Canada, 18,101; in Ottawa District, 1,700; in Eastern Canada, 2,774; in the Lower Provinces, 61; and 1,083 unaccounted for. Of the prospects for 1864, Mr. Buchanan says: "As to the demands for labour and the prospects which Canada offers as a home for the industrial classes of the mother country, they are, upon the whole, favourable. The country is advancing steadily in wealth and population. Our farmers are reaping the benefit of an abundant harvest, and will be in a position to afford increasing employment to skilled agricultural labourers. To this class more particularly this country at present holds out the fairest prospect of success, and I do not anticipate any difficulty in providing for all who shall seek our shores. The demand for artisans will remain extensive, and some classes will more particularly be sought for. The increasing attention which is now directed to the mineral resources of the country will result in the employment of large numbers of miners and other workmen having experience in the opening and working of mineral veins. The numerous discoveries of copper ores made in the eastern townships within a recent period have been followed by many successful attempts to develop this source of wealth, and there are already mining enterprises in progress on a very large scale. The experience gained in the working of the gold deposits known to exist in some parts of the same district has encouraged more enlarged examination, with successful results in many instances. There appears no doubt that the judicious and economical application of capital and labour to the production of copper and gold will be attended with profitable results, and that the field they offer for industry will be extended year by year."

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55. New Brunswick.—The emigrants who sailed from the United Kingdom in 1863 amounted to 434, but the number who arrived in the colony is stated to have been 649. The difference arises from those who went to Nova Scotia by steam and thence to New Brunswick, of whom 198 were sent out by the liberality of Miss Burdett Coutts. The emigration was perfectly healthy, not a single death being reported. The immigration agent states that the demand for agricultural labourers and domestic servants was such as to secure employment for all persons of those classes immediately on their arrival. The immigration agent adds, that the settlements recently formed in the upper counties of New Brunswick, as well as those in Queen's and Charlotte county, are in a prosperous condition; and that wherever roads are made leading to good land settlement rapidly follows. The imports during the year amounted to 1,595,513*l.*, the exports to 1,842,079*l.*

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56. Nova Scotia.—The number of emigrants who proceeded from the United Kingdom in 1863 was 419. There is no information as to the way in which they found employment. From the report of the gold commissioner, for the first six months of 1863, it appears that mining and crushing operations were being carried on with success. The winter would make it impossible to work during three of those months; nevertheless the quantity of quartz crushed during the half-year is stated to have been 6,875 tons, from which were extracted 5,193 ozs. of gold, being at the rate of 0·70 oz. per ton.

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57. British Columbia.—There is no return of the emigration to this colony, but the late Governor Douglas stated that in September last the carriage-road between Lillooet and Alexandria was completed, and the road between Alexandria and Lytton nearly so; that a wire suspension bridge, of 268 feet span, had been erected across the Frazer River at Chapman's Bars, 15 miles from Yates; and that the journey from New Westminster to Alexandria may now be easily made in eight days. Gold continued to be found in considerable quantities at Richfield, Caribou, and other places; and 500 acres of land had been brought under grain in the Lillooet district. The revenue derived from customs and road-tolls, to August 31, amounted to 58,791*l.*, being an increase over that of 1862 of 10,721*l.*

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58. Mauritius.—The number of Indian immigrants introduced in 1863 was 5,254, of whom 1,587 were females. The number of departures was 3,220, of whom 667 were females. Of deaths on the voyage there were 39, out of 4,673 immigrants, 26 dying of cholera in one ship. The number received was less than in previous years, and will decrease, as so large an amount had been already received. The total number to December, 1863, had been 228,979, of whom 70,730 were females. The number of engagements formed by immigrants during the year is stated as 72,239, and the number discharged as 38,895. Some of the smaller islands, dependencies of Mauritius, the larger of which produce and send to Mauritius about 195,000 gallons of cocoanut oil annually, the land of which is held by an uncertain tenure, is to be henceforth held on leases for 99 years, on payment of 2*s.* for each 1½ gallon of oil produced in 1862, and a duty of 10 cents on the oil exported, by way of rent. The land in the island of Rodrigues is also to be surveyed and sold

59. WEST INDIES.—During the season of 1862-3 the emigration from India to the West Indies had been small. There were 2,697 sent to British Guiana, 1,389 to Trinidad, and 545 to Jamaica; and 139 deaths occurred on the passage. Of liberated Africans, from Sierra Leone and St. Helena, 607 were sent to British Guiana, 309 to Jamaica, 120 to Grenada, and 224 to St. Kitts. There were 930 immigrants also sent from China to British Guiana, of whom 630 were male adults, 257 female, and 43 children, and 30 died on the passage. In British Guiana an ordinance was passed, authorizing the introduction of coloured immigrants from the British West Indies and from the United States, from which the President had expressed a desire to remove them. A representation had been made from Guiana that the Dutch in Surinam were endeavouring to procure coolies, whose time of service had expired, from that colony, to which Sir C. Wood had replied that he saw no objection to such proceeding, provided the coolies rightly understood the terms of their contracts, and the risk they ran, by leaving British Guiana, of losing their right to return passages. A licence had been granted to raise and export certain phosphatic substances, said to be valuable as manure, from the island of Sombrero, one of the Leeward Islands of the West Indies.

60. CEYLON.—In this island an ordinance has been passed enabling the Crown to take possession of private lands for public uses, such as roads, rights of way, &c.; and the number of jurors to assess the value of land so taken is reduced from 13 to 7; another is for the survey of lands and registration of titles; and a third is to provide for the partition of lands held in common, as it is stated that, besides the proprietors, "native gardens have several sets—often three or four—of planters, who have a transmissible interest in the trees planted by them," and that suits often arise "for 100th part of a garden, or the 125th part of a tree."

61. NATAL.—The number of assisted emigrants sent from this country in 1863 was 225, but there was a great demand for coolie labour, which the Commissioners were endeavouring to supply. They complain of the manner in which land has been squandered in former years, so that "of the 11,500,000 acres which the colony is supposed to contain, 7,000,000 have been granted away among a European population of abont 12,500 persons, being at the rate of about 560 acres for every man, woman, and child." The remaining available area is estimated at only 3,219,000 acres, and this it has become necessary to retain under the control of the government for the use of future immigrants. From another document we learn that the revenue for 1863 amounted to 123,089*l.*, an excess of about 6,000*l.* over the expenditure, in which the grants for education, roads and bridges, immigration, and the post office, amount to a little above 30,000*l.*, or a fourth of the whole.

62. LABUAN.—An ordinance has been passed by the legislative council, providing that the waste lands should be classified as town, suburban, and country land; then it shall be let on leases of 999 years, such leases to be sold by auction, the quit-rents to be paid annually, and redeemable at ten years' purchase, the redemption to be compulsory when the quit-rent is less than a dollar per annum. All coals and minerals, with the right of working them, is reserved to the crown, which has granted a lease of the coal-mines in the colony for 21 years, paying 6*d.* per ton for the first 7 years, and 1*s.* per ton for the last 14 years.

VII.—MISCELLANEOUS.

1.—*Education and Connected Matters.*

63. EDUCATION, ENGLAND.—The Education Committee of the Privy Council report to her Majesty that the 60 inspectors of schools in 1863 visited 11,230 daily schools or departments of schools under separate teachers, and found present in them 1,092,741 children, 9,481 certificated teachers, and 13,849 apprentices. The female scholars were 45 per cent. of the whole number, the largest proportion they have ever yet reached. The expenditure of the Parliamentary grant amounted in 1863 to 721,391*l.*, a decrease of 53,351*l.*, as compared with 1862; 31,143*l.* of this decrease was in respect of the maintenance of elementary schools. The rate of grant per scholar under the Revised Code was, in fact, reduced to about 8*s.* 1*d.*, while it was 10*s.* 6*d.* in schools still aided under the code of 1860; but the period was one of transition, and it is believed that the reduction will not continue to be so great when schools have been more carefully classified according to the aptitude of the scholars for satisfying the several standards of examination; the Committee of Council think that by the end of this year their estimate of 9*s.* 3*d.* per scholar will not be found to have been too high. The operation of the Revised Code is shown in tables compiled from the examination of 1,828 schools, with 180,005 scholars presented for examination, or about 64 out of every 100 of the average attendance—scholars who must have qualified for examination by having made 200 attendances, which is equal to attending 100 days in the year. The percentage of failures was 12·66 per cent. in reading, 14·90 per cent. in writing, 21·43 per cent. in arithmetic. The grants for children under 6 do not depend upon examination individually; of those over 6 the proportion above 10 years of age was 38·96, and those ought, ac-

cording to age, to have been able to pass Standard 6, but in fact, only 10·09 per cent. passed successfully even above Standard 3 in reading, writing and arithmetic. It is evident that large numbers of children have failed to be benefited by these schools as they ought, or as, say the Committee of Council, their successors are likely to be under a system of grants dependent upon the examination of individual scholars. In evening schools, the percentage of failures was 15·56 in reading, 22·62 in writing, 25·08 in arithmetic. In parishes with less than 1,000 inhabitants, which amount to more than half the whole number of parishes, though with only one-tenth of the population, not more than one-third have grant schools; and the Commissioners state that in parishes with less than 200 inhabitants, separate schools, except under very special circumstances, should not be attempted. The report adds that the Committee of Council have provisionally certificated 30 male and 54 female pupil-teachers in the lower grade of the fourth class for immediate service in charge of small rural schools. In December last 77 acting schoolmasters and 105 acting schoolmistresses passed successfully their examinations for certificates; 65 acting schoolmasters and 44 acting schoolmistresses failed. Twelve inspectors' assistants have been appointed to aid the inspectors in examining large schools in densely-peopled districts, by seeing certain exercises performed and marking them one by one for the inspectors.

64. Education, Science and Art.—Sums granted for such objects in 1864-5 :—

	£.
Public Education, Great Britain	705,404
Science and Art Department	135,582
Public Education, Ireland	316,770
Commissioners of Education, Ireland, Office Expenses	805
University of London	5,206
Universities, &c., in Scotland	19,704
Queen's University in Ireland	2,462
Queen's Colleges, Ireland	5,400
Royal Irish Academy	500
National Gallery, Ireland	600
Belfast Theological Professors, &c.	2,500
British Museum	92,127
National Gallery	13,876
British Historical Portrait Gallery	1,500
Scientific Works and Experiments	7,184
Royal Geographical Society	500
Royal Society	1,000
Royal Academy of Music	500
	£1,311,618

The sum granted in 1863-4 was 1,386,417*l.*, or 74,799*l.* more.

65. British Museum.—The total expenditure on the British Museum in the year ended March 31, 1864, was 95,500*l.*, of which 20,574*l.* were expended on purchases and acquisitions, and of this 10,003*l.* were for printed books; 1,572*l.* for MSS.; 1,009*l.* for zoological specimens; 1,149*l.* for coins and medals; 1,004*l.* for Greek, Roman, Medieval, Oriental and British Antiquities; 1,091*l.* for prints and drawings; 1,100*l.* for minerals and meteorites; 1,000 for bone and flint instruments, and human and animal remains from the south of France. Bookbinding, preparing specimens, &c., cost 10,255*l.*; printing catalogues, taking casts, &c., 1,496*l.* The salaries amounted to 44,505*l.*; the house expenses to 2,81c*l.*; the general repairs, furniture, fittings, &c., 15,581*l.* For law expenses the sum is only 61*l.* In the year 1863 there were 440,801 visitors to the general collection; 107,821 to the reading-room for purposes of study, 2,042 to the sculpture galleries, 2,827 to the print-room, and 1,204 to the coin and medal-room; a total of 554,695, little more than half the number of visits paid in the year 1862, and less than in any year since 1856. The readers averaged 372 per day, each consulting an average of 11 volumes.

66. Art Students.—A return on the Schools of Art established in the chief towns in the kingdom, shows that about half the students range under the artisan and industrial class, on whose behalf the government has insisted, as a condition of State aid, of evening classes at 6*d.* a week. The return shows, amongst a numerous list of professions, 692 engineers, 509 carpenters, 458 painters, 292 carvers, 264 engravers, 255 mechanics, 219 cabinetmakers, 215 builders and their apprentices, 213 masons and stonecutters, with many others whose trades seem more connected with design, and also includes 81 shopmen and shopwomen, 55 warehousemen and boys, 55 tailors, 54 smiths, 53 ironmongers, 47 farmers, 25 victuallers, 15 publicans, 22 messengers and office boys, 20 Excise and Customs' officers, 19 mariners, 18 bakers, 13 butchers, 8 pawnbrokers, 5 policemen, 2 timekeepers, 2 church vergers, and various others. Among the higher classes are 2 Cambridge professors, 62 clergymen, 33 physicians, 106 merchants and shipowners, 665 clerks, &c., &c.

67. Visitors to Museums, Palaces, Collections, &c.—*Kew Gardens.*—The total number of visitors in 1863 was 403,418, of whom 188,484 were on Sundays, and 214,934 on week-days. The greatest Sunday attendance was 12,441, on June 21, the greatest week-day attendance was 11,631, on May 25. *South Kensington Museum.*—In the year 1863 there were 726,915 visitors. During the 17 days of the exhibition of the marriage presents of the Princess of Wales they were visited by 229,425 persons. *National Gallery of Portraits.*—The number of visitors continues to increase. On Easter Monday there were 1,184 in 1864, against 942 in 1863.

68. Registration of Works of Literature.—In 1863 there were registered at Stationers' Hall, 1,534 British books, 814 foreign books, &c., and 3,611 works of art. The number of assignments registered was 132, and the number of certificates furnished 197.

2. *Social Condition.*

69. SAVINGS BANKS.—On Nov. 20, 1863, the number of individual depositors, Charitable Institutions, and Friendly Societies in Savings Banks was 1,555,089, and their deposits amounted to 40,907,182*l.*, a falling off since the corresponding date in 1862 of 2,482 in the number of depositors, but with an increase of 356,625*l.* in the amount of deposits. Of the depositors 251,810 were for sums not exceeding 20*l.*, and 301,050 not exceeding 5*l.* Charitable Institutions and Friendly Societies number 28,334, and their deposits amount to 2,833,200*l.* There are also 567 Friendly Societies in direct communication with the Commissioners, of which the deposits amount to 2,040,724*l.* The total amount that has been received by the National Debt Commissioners from savings banks, and of the interest accrued thereon, is no less than 92,005,578*l.*, whereof 43,278,656*l.* is still due to the savings banks; the value of the securities held by the Commissioners to meet that demand, taken at the price of the 20th of November, was only 39,522,215*l.*, the deficiency to be provided by Parliament, if necessary. The accounts relating to savings banks annuities purchased by depositors show that 6,563 life annuities are now payable, amounting to 134,581*l.* a year, and 64 annuities for terms of years, amounting to 1,167*l.* a year.

70. POST OFFICE SAVINGS BANKS.—A return made up to the end of March, 1864, shows that at that date there were 372,955 accounts opened at the Post Office savings banks, and 4,097,492*l.* due to the depositors. This sum is about a tenth of the deposits in the old savings banks, but in numbers the depositors in the Post Office banks are more than a fifth of the number who have accounts with the old banks. The chief business of these banks is in England. The deposits in Ireland are but 160,756*l.*, in Scotland 107,931*l.*, in the Channel Islands 7,598*l.*, in Wales 121,029*l.* In England there were in March last 327,346 depositors, and 3,700,176*l.* due to them. The counties in which Post Office banks have the largest deposits are Middlesex with 741,383*l.*, and Warwickshire with 526,098*l.* At Birmingham the deposits amount to 367,535*l.* The expenses of the Post Office savings banks for their two and a half years of existence (a large proportion of them, however, of much more recent establishment) appear from this return to have been about 62,000*l.*, and the return shows a surplus of assets over liabilities, after paying interest and all expenses. There has been loss amounting to 1,093*l.* by defalcation of a postmaster at Beverley, but that sum will be reduced to the extent of the amount recovered from his sureties. It is of interest to observe that although the deposits in the Post Office banks exceed 4,000,000*l.*, the deposits in the old savings banks have actually increased during the year.

71. SCOTCH SAVINGS BANKS.—The balances due to depositors in the old savings banks of Scotland materially increased last year. Thus the amount due in Aberdeenshire, November 20, 1863, was 308,537*l.*, against 292,900*l.* in 1862; in Berwickshire, 4,077*l.*, against 3,781*l.* in 1862; in Buteshire, 20,463*l.*, against 19,869*l.* in 1862; in Caithness, 22,744*l.*, against 22,576*l.* in 1862; in Dumbartonshire, 11,348*l.*, against 10,543*l.* in 1862; in Dumfriesshire, 11,111*l.*, against 10,720*l.* in 1862; in Edinburghshire, 653,680*l.*, against 617,536*l.* in 1862; in Elgin, 36,716*l.*, against 35,823*l.* in 1862; in Fifeshire, 128,950*l.*, against 122,354*l.* in 1862; in Forfarshire, 190,283*l.*, against 173,124*l.* in 1862; in Inverness-shire, 44,917*l.*, against 42,079*l.*, in 1862; in Kincardineshire, 55,988*l.*, against 51,340*l.* in 1862; in Kirkcudbrightshire, 11,787*l.*, against 10,946*l.* in 1862; in Lanarkshire, 1,074,308*l.*, against 981,687*l.* in 1862; in Nairn, 9,395*l.*, against 9,167*l.* in 1862; in Perthshire, 30,770*l.*, against 30,533*l.* in 1862; in Renfrewshire, 65,882*l.*, against 57,806*l.* in 1862; in Ross and Cromarty, 6,899*l.*, against 6,754*l.* in 1862; in Roxburghshire, 87,528*l.*, against 81,830*l.* in 1862; in Selkirkshire, 8,299*l.*, against 8,202*l.* in 1862; in Stirlingshire, 66,390*l.*, against 59,910*l.* in 1862; and in Wigtownshire, 1,533*l.*, against 1,435*l.* in 1862. On the other hand, the balances due in Argyleshire receded to 6,256*l.* last year, against 6,337*l.* in 1862; and in Banffshire to 19,549*l.* against 20,126*l.* in 1862. The general increase, it will be observed, was especially marked in Lanarkshire, the great industrial county of Scotland. The total of the deposits amounts to 2,877,410*l.*

72. MILITARY SAVINGS BANKS.—The accounts for the year ending March, 1863, show that 17,621 accounts were opened, and the balance due to depositors and to army charitable funds was 279,091*l.* The number of depositors decreased considerably in the year.

73. SEAMEN'S SAVINGS BANKS.—The amount received from depositors in the year ending Nov. 20, 1863, was 17,098*l.* 5*s.* 11*d.*, the balance in hand from the previous year was 31,995*l.* 15*s.* 1*d.*, and the interest was 1,063*l.* 17*s.* 2*d.*, making a total of 50,157*l.* 18*s.* 2*d.* The repayments in the year had been 14,090*l.* 0*s.* 5*d.*, leaving a balance of 36,067*l.* 17*s.* 9*d.*

74. MERCANTILE MARINE FUND.—The cash receipts for the year 1863, including the balance in hand, was 114,258*l.* 17*s.* 8*d.*; the expenditure was, in pensions granted by the Trinity House, 5,490*l.* 19*s.* 3*d.*; for new works in building lighthouses, 60,803*l.* 18*s.* 10*d.*; for expenses of life-boats and gratuities for saving lives, 6,724*l.* 17*s.* 7*d.*; a balance of 34,398*l.* 4*s.* 7*d.*, and some minor items make up the account.

75. LOAN SOCIETIES.—The number of these societies at the end of 1863 was 758, an increase of 54 over that of 1862. There are now one each in Bedfordshire, Buckinghamshire, and Hertfordshire, which pre-

viously had none. In Middlesex they have increased from 334 to 363; in Surrey, from 116 to 130; Suffolk, Dorset, and Huntingdon, and the northern counties of Cumberland, Westmoreland, and Northumberland, are still without them. Wales remains as it was with 4. The total amount of money actually advanced by depositors in the year was 222,909*l.*; the sums in borrowers' hands at the close of 1863 was 473,985*l.*; the amount circulated in the year was 802,609*l.* The gross profits of the year, including 10,657*l.* received for forms of application and inquiry, was 54,370*l.*; the expenses of management were 20,266*l.* The sum paid as interest to depositors or shareholders was 28,402*l.* In the course of the year, 178,333 applications were made for loans, and 172,850*l.* were granted. There were 15,966 summonses issued in the year for sums amounting to 33,551*l.*; and 1854 distress warrants were issued, and 25,005*l.* were recovered on the processes. The sum of 2,805*l.* was recovered from borrowers or their sureties for costs.

76. Industrial and Provident Societies.—The annual return of registered Industrial and Provident Societies in England shows that in 1863 there were 454 societies, and 381 have made a return of the state of their affairs. At the end of the year these 381 societies had 108,588 members, an increase of above 11,000 in the course of the year. The amount of share capital was 573,582*l.*, and of loan capital 73,545*l.* The societies paid 32,978*l.* in the year for interest. They paid 2,370,153*l.* for goods bought, and received 2,626,741*l.* for goods sold. They realised a profit of 213,623*l.* The year's expenses amounted to 176,554*l.* The Co-operative Cotton Spinning Association at Mitchell Hey Mills, Rochdale, returns its number of members at 1,617; its share capital, 77,511*l.*; goods bought in the year, 98,539*l.*; sales, 110,097*l.*; profit realized, 7,303*l.*; expenses, 17,104*l.*

77. Friendly Societies.—In the year 1863 the Registrar certified the rules of 1054 Friendly Societies, and the alterations of the rules of 1231 others. In the same year 118 notices of dissolution had been received, chiefly in consequence of the rate of subscription not being equal to the payments, especially after the society has been in existence for several years, for, as the members become old, they entail a constantly increasing demand on the funds, which the payments will not reach. The Registrar in his Report calls the attention of all such Societies to this important fact.

78. New Joint-Stock Companies.—Between the beginning of 1863 and the 18th of May, 1864, there were registered 1,176 new joint-stock companies with limited liability, and the total number of shares created reached the enormous number of 13,348,401. Some qualification of this statement is afforded in a note appended to the parliamentary return, to the effect that the Registrar of Joint-Stock Companies is unable to state how many of the shares have been really subscribed for; only 672,399 shares had been subscribed for by the parties registering.

3. *Public Health.*

79. Accidents on Railways.—In the year ending Dec. 31, 1863, the number of persons killed or injured on the Railways in the United Kingdom was—

	Killed.	Injured.
Passengers, from causes beyond their own control	14	400
Ditto, owing to their own misconduct or want of caution	21	1
Servants of companies or contractors, from causes beyond their own control	11	44
Ditto, from their own misconduct or want of caution	87	14
Other persons crossing at levels.	9	1
Trespassers, neither passengers nor servants	40	7
Miscellaneous.	2	3
Total	184	470

Of the casualties, 129 were killed and 410 injured in England, 32 killed and 28 injured in Scotland, and 23 killed and 23 injured in Ireland; a decrease of 32 deaths and 130 injuries from those of 1862.

80. Accidents in Mines.—In the year 1863 there were 907 deaths caused by accidents in and about the coal mines of Great Britain, 226 less than in the year 1862. 163 of the deaths were caused by explosions of firedamp, 407 by falls in mines, 147 by accidents in shafts, 134 by miscellaneous underground accidents, and 56 by accidents at the surface. There were also in 1863 91 deaths caused by accidents in and about the inspected ironstone mines of Great Britain, 14 less than in 1862; 9 of these were from explosions of firedamp, 39 from falls in mines, 27 from accidents in shafts, 9 from miscellaneous accidents underground, and 7 from accidents on the surface.

4. *Intercommunications.*

81. The Post-Office Report for 1863 has not been issued. In its absence we give a statement of the progress from 1861 to 1862, in some of the principal towns in England. The number of letters delivered in London in 1862 was 151,619,000, against 146,629,000 in 1861; in Bath, 3,861,000 against 3,768,000 in 1861; in Birmingham, 11,106,000 against 10,689,000 in 1861; in Bradford, 3,200,000 against 3,064,000 in 1861; in Bristol, 7,185,000 against 9,933,000 in 1861; in Cheltenham, 2,269,000 against 2,265,000 in 1861; in Derby, 3,065,000 against 2,919,000 in 1861; in Exeter, 4,094,000 against 3,926,000 in 1861; in Hull, 3,807,000 against 3,527,000 in 1861; in Leeds, 6,610,000 against 6,466,000 in 1861; in Leicester, 2,546,000 against 2,696,000 in 1861; in Liverpool, 15,364,000 against 14,583,000 in 1861; in Manchester, 18,314,000 against 19,270,000 in 1861; in Newcastle-on-Tyne, 4,001,000 against

3,851,000 in 1861; in Norwich, 3,643,000 against 3,409,000 in 1861; in Nottingham, 3,210,000 against 3,285,000 in 1861; in Plymouth, 2,366,000 against 2,252,000 in 1861; in Portsmouth, 2,477,000 against 2,284,000 in 1861; in Preston, 2,259,000 against 2,325,000 in 1861; in Sheffield, 3,886,000 against 3,875,000 in 1861; in Southampton, 3,858,000 against 3,915,000 in 1861; and in York, 3,226,000 against 3,133,000 in 1861.

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82. RAILWAY TRAFFIC, RECEIPTS AND EXPENDITURE.—In the year ending Dec. 31, 1863, the total number of passengers conveyed on railways in England and Wales had been 173,605,485, exclusive of 42,991 holders of season and periodical tickets, or more than 8 journeys for each inhabitant. The number of miles travelled by trains was 97,424,179, of which 50,515,081, more than half, were by passenger trains, the remainder by luggage trains; the number of trains run was 3,811,878, somewhat over 25 miles for each train. The number of miles open at the end of 1863 was 8,568. Of general merchandise there had been carried 26,741,928 tons, and of coals and other minerals, 55,613,641 tons, or somewhat more than two and a half tons for each inhabitant. The live stock carried was 2,123,833 cattle, 6,076,908 sheep, and 1,270,561 pigs; besides 226,439 horses, and 327,147 dogs. The total receipts were 26,212,822*l.*, of which 2,868,221*l.* were derived from first-class passengers, 3,773,084*l.* from second-class, 3,948,774*l.* from third-class and parliamentary-train passengers, and 287,956*l.* from season-ticket holders; 992,570*l.* were received for the carriage of passengers' luggage, parcels, carriages, horses, &c.; 391,221*l.* for the conveyance of mails; 465,164*l.* for the carriage of live stock; and 13,485,202*l.* for that of general merchandise and minerals.

In Scotland the total number of passengers had been 19,567,399, exclusive of 12,537 season-ticket holders, nearly six and a half journeys for each individual inhabitant, and the miles travelled by trains were 12,559,048, of which 5,630,601 were by passenger trains. The number of miles of railway open was 2,013. Of general merchandise there had been carried 4,263,045 tons, and 12,194,972 tons of coal and other minerals, or more than 4 tons for each individual. Of live stock there were conveyed 502,765 cattle, 1,214,771 sheep, and 71,218 pigs, besides 23,973 horses, and 67,995 dogs. The total receipts were 3,424,921*l.*, of which 298,476*l.* were from first-class passengers, 166,874*l.* from second-class, 658,528*l.* from third-class and parliamentary-train passengers, and 27,540*l.* from season-ticket holders. The receipts from the goods and cattle traffic was 2,108,088*l.*, with 88,344*l.* from the carriage of passengers' luggage, parcels, &c.; and 77,071*l.* from the conveyance of mails; two-thirds of the receipts arising from goods traffic.

In Ireland the total number of passengers had been 11,462,191, exclusive of 8,863 season-ticket holders, or about two journeys for each individual, and the miles travelled by trains were 6,608,934, of which 4,886,461 were by passenger trains. The number of miles of railway open at the end of the year was 1,741. The general merchandise carried was 1,512,271 tons, or about a quarter of a ton for each individual; and 234,541 tons of coal and other minerals. Of live stock there were conveyed 528,473 cattle, 470,205 sheep, and 770,941 pigs. The total receipts were 1,518,654*l.*, of which 201,979*l.* were from first-class passengers, 260,547*l.* from second-class, 325,771*l.* from third-class and parliamentary-train passengers, 18,761*l.* from season-ticket holders, 55,345*l.* from passengers' luggage, parcels, horses, and dogs, and from the conveyance of mails, 79,877*l.* The receipts from the carriage of general merchandise, minerals, and live stock were only 576,375*l.*, little more than one-third of the whole, while in England it forms the larger half, and in Scotland nearly two-thirds of the receipts.

In England and Wales in 1863 the first-class passengers formed 12·67 per cent. of the whole, second-class 29·84, and third-class and parliamentary 57·49; the numbers by the third-class having slightly increased; the first and second decreased In Scotland the proportions were—first-class 13·12 per cent., second-class 10·73 per cent., third-class 76·15 per cent. In Ireland the proportions were—first-class 13·32 per cent., second-class 31·24, third-class 55·44. The third-class passengers have increased, but still form little more than half of the total, while in Scotland they furnish more than two-thirds. In Ireland the passenger traffic supplies 62·05 per cent. of the receipts. In England the passenger traffic furnishes 46·78, and in Scotland only 38·45 per cent.

The total length of railway open for traffic in the United Kingdom on Dec. 31, 1863, was 12,322 miles, and the total maintenance of way cost 2,847,287*l.*, or 18·95 per cent.; the locomotive power, 4,150,499*l.*, or 27·62 per cent.; the repairs and renewals of carriages and waggons, 1,402,356*l.*, or 9·33 per cent.; rates and taxes, 631,127*l.*, or 4·20 per cent.; the government duty was 395,234*l.*, or 2·63 per cent.; the compensation for personal injuries, &c., was 179,565*l.*, or 1·19 per cent.; the compensation for damage or loss of goods was 68,242*l.*, or 0·46 per cent.; legal and parliamentary expenses were 194,782*l.*, or 1·30 per cent.; and the miscellaneous working expenses not included in the foregoing were 962,020*l.*, or 1·30 per cent.; showing the total working expenditure to have been 15,027,234*l.* The total receipts having been 31,076,165*l.*, the working expenses amount to 48 per cent. of the whole, which is a reduction of 1 per cent. on those of 1862. An account of the rolling stock of the various companies shows that 6,643 locomotives were employed; 22,021 carriages for passengers and other vehicles attached to passenger trains; and 199,923 waggons and other conveyances for live stock, merchandise, and minerals. The capital authorised to be raised, up to Dec. 31, 1863, was 474,999,545*l.*, of which 119,298,750*l.* was by loan, the rest by shares. The total raised by loans and shares at the above date

was 404,215,802*l.* Forty projected lines were] abandoned, or the powers for the compulsory purchase of land allowed to expire, during the year; the total capital in shares and loans required for these lines was 19,072,328*l.*, and 1,198,818*l.* had been paid up.

83. TURNPIKE TRUSTS.—The annual abstract of the returns for 1861 from turnpike trusts shows that in England and North Wales, the toll income has fallen off from 1,509,985*l.* in 1837 to 1,038,980*l.* in 1861, and the expenditure thereout upon repairs from 913,988*l.* to 646,221*l.* The bonded or mortgage debt was reduced from 4,688,134*l.*, at the beginning of the year 1861, to 4,532,895*l.* at its close; but part of this debt was extinguished by the creditors accepting compositions in lieu of full payment. So also through large arrears of interest having been extinguished and the rate lowered, the unpaid interest was reduced in the year by 49,064*l.*, and brought down to 710,919*l.* The returns for South Wales are kept distinct; they show that the debt to the Public Works Loan Commissioners is being gradually paid off.

5.—*Agriculture.*

84. AGRICULTURAL STATISTICS OF IRELAND.—The annual return for 1863 which has been laid before Parliament gives the corrected figures of the cultivation, and an account of the yield. The decrease of acreage of the cereal crops was 143,534 acres; of turnips and mangel wurzel, 32,073 acres; while there was an increase of 5,302 acres of potatoes, 3,582 of cabbage, 64,029 of flax, and 7,714 of hay. Owing, however, to the favourable season, the produce had been in excess of that of 1862, even from the lesser acreage; of wheat there were 837,906 quarters, an increase of 154,858 quarters; of oats 8,928,671 quarters, an increase of 1,645,271; of barley 758,929 quarters, an increase of 96,696; of bere 13,966 quarters, an increase of 2,429; of rye there was a decrease of 5,713 quarters, the produce being only 15,491. Of potatoes, with an addition of 5,302 acres, the produce was 3,445,949 tons, an increase of 1,297,547, or more than a third over the previous year; turnips, on the decreased acreage, gave 4,183,672 tons, an increase of 390,990; there were 85,987 tons of cabbage, an increase of 85,987; and flax rose from 24,258 tons to 42,646 tons, an increase of 18,388. Of mangel wurzel there were 185,222 tons; of hay, 2,762,033; a decrease on both from the produce of 1862. The productiveness of the crops in 1863 was very remarkable; wheat, which in 1862 averaged 8·1 cwts per acre, gave 13·5 in 1863; oats rose from 10·3 to 12·8 cwts. per acre; potatoes from 2·1 tons per acre to 3·4 tons; flax from 25·9 stones (of 14 lbs.) per acre to 31·9; and everything else in varying proportions, except hay, which was a trifle per acre less. In the report for 1864 it is stated that the total area of ground under crop this year is 5,672,980 acres, an increase in favour of the current year of 10,493 acres. Of the cereal crops, the total extent under wheat was greater than in 1863 by 19,552 acres; whilst the total area under oats has diminished by 141,965 acres. Barley, bere, and rye increased by 1,103, and beans and peas by 873 acres—exhibiting on the whole a decrease in cereals of 122,437 acres. Turnips show a diminution of 14,153 acres; mangel wurzel and beetroot of 2,328; cabbage of 2,369; and vetches and rape of 20 acres; potatoes, however, have increased by 15,868 acres, and carrots and other green crops by 685 acres; so that, on the whole, the green crops have only diminished by 2,317 acres, on a total amounting to nearly 1,500,000 acres. According to the returns, the number of cattle and sheep is greater, and of horses and pigs less, than last year. The increase in cattle (amounting to 113,078) took place in yearlings and calves, owing to their importation, and also to the very general rearing of calves which now prevails throughout the country. In sheep the decrease is confined to tups and wethers—ewes and lambs having increased. The falling off in the number of horses was amongst those returned under the heads of "agricultural," and "under one year." Notwithstanding the decrease in the number of horses and pigs, there is an increase in the estimated total value of stock this year compared with last, amounting to 632,411*l.* This increase, combined with the larger extent of flax—37,761 acres—and the consequent greater yield and value of that crop in 1864 compared with 1863, also the expected increase in the "average yield" of other crops this year, may be considered as affording fair hope of a return to more propitious seasons for the farmer than Ireland has enjoyed for some years past.

6.—*Other Subjects.*

85. PUBLIC WORKS AND BUILDINGS.—Sums granted for such objects in 1864-5:—

	£.
Royal Palaces	52,258
Public Buildings	107,531
Furniture of Public Offices	17,300
Royal Parks and Pleasure Gardens	97,994
New Houses of Parliament	32,144
British Embassy Houses, Paris and Madrid	1,517
British Consulate and Embassy Houses, Constantinople	3,201
New Foreign Office Buildings	75,000
Industrial Museum, Edinburgh	6,750
Aberdeen University	3,355
Probate Court Registries	9,574
General Register House, Edinburgh	1,574
Public Record Repository	26,000
Westminster Bridge Approaches	20,000
New Westminster Bridge	10,930
Architectural Designs	3,260
Nelson Column	4,000
Harbours of Refuge	96,000
Holyhead and Port Patrick Harbours, &c.	57,875
Public Buildings, Ireland	97,452
New Record Buildings, Dublin	18,000
National Gallery, Dublin	1,100

	£.
Lighthouses Abroad . . .	13,703
Isle of Man Lunatic Asylum .	4,000
Sheriff Court Houses, Scotland .	17,000
Rates for Government Property .	27,000
Land, &c., at Kensington Gore .	53,000
New National Gallery . . .	10,000
	867,518

The sum granted for the like objects in 1863-4, was 893,523*l.*, or 26,005*l.* more.

86. Royal Naval Reserve.—The return for the first quarter of 1864 shows a list of 15,949 volunteers; 15,473 of them had undergone drill; 7,727 were engaged in the coasting trade at home; 5,401 were absent on leave for short voyages, and expected home within periods varying from a fortnight to six months; 1,834 were absent on leave for long voyages, but expected home within a year; the remaining 987 had been either left abroad on account of sickness, or discharged, or deserted.

87. Fortifications.—Up to March 31, 1863, the expenditure has risen to 2,856,610*l.*, leaving less than 350,000*l.* to be issued of the 3,200,000*l.* authorized by the Acts of 1860 and 1862, but a further sum of 650,000*l.* was authorized by an Act of last Session. The sum of 883,347*l.* had gone for land, 1,859,037*l.* for works, and the rest for incidental expenses. Of the money expended there had been laid out at Portsmouth 1,059,144*l.*, at Plymouth 623,185*l.*, at Dover 231,336*l.*, at the Medway and Sheerness 192,109*l.*, at Portland 186,181*l.*, at Pembroke 175,563*l.*, at Chatham 127,150*l.*, at Gravesend 85,955*l.*, at Cork 38,705*l.* Surveys and legal charges have absorbed 55,000*l.*; civil staff, travelling, &c., 73,198*l.*; experiments and clearance works, 9,082*l.* The funds have been raised by terminable annuities expiring in 1885, paying 3¾ per cent., and such annuities have been created to the amount of 193,129*l.*

88. Ordnance Survey.—The cost of the Ordnance Survey department, including military pay and every contingency (except that the regimental pay of officers before 1856, and the cost of stationery and stores, cannot be ascertained), has been, up to March, 1864, 1,303,764*l.* for England, 1,083,593*l.* for Ireland, and 604,267*l.* for Scotland,—making a total of 2,991,624*l.* Against this is to be set the sale of maps, which in the last six years has produced 32,850*l.*, besides that maps of the value of 17,319*l.* have been issued to public departments; also nearly 9,000*l.*, the cost of Landed Estates Court surveys in Ireland, will be repaid into the Exchequer.

89. Bank of England Business.—A return just issued shows that the amount of stock transferred in 1860 reached 196,282,526*l.*; in 1861, 268,900,776*l.*; in 1862, 228,453,050*l.* The number of holders of stock, however, varies but slightly; in 1861 it was 261,367; in 1862, 264,696; in 1863, 264,011. The number of persons entitled to large dividends has increased. In 1861 there were 529 persons entitled to dividends of 2,000*l.* a year and upwards, in 1862 they were 569, and in 1863 they were 585. At the lower end of the list are 92,190 persons whose year's dividends in 1861 did not exceed 10*l.*; in 1862, there were 92,262, but only 91,870 in 1863.

90. Gas in London.—The official returns show that the total sum received by 13 metropolitan gas companies in 1862 was 1,840,969*l.*, and the total working expenses were 1,282,566*l.*, leaving a balance of profit of 558,403*l.* After providing for 41,112*l.* for interest on debentures, the companies had still 517,291*l.* available for dividends on their shares. The receipts of the Chartered Company were the largest, 276,336*l.*; the Ratcliffe the smallest, 36,013. The total capital amounted to 5,783,815*l.*, and the average profits were 9·69 per cent. The quantity of coal consumed by all the companies was 848,979 tons.

91. Irish Church.—By the return presented to Parliament giving particulars of every parish in Ireland, it appears from the census that there were 693,357 members of the Established Church in Ireland—men, women, and children—and 596,826 Protestant Dissenters. The gross income of the bishoprics, dignities, and livings of the Established Church in Ireland, amounts to 586,428*l.*, and the net income to 448,942*l.*

X.—JUDICIAL STATISTICS OF ENGLAND AND WALES FOR 1863.

The Annual Report contains the following results:—

Crime, Police, and Law.

Under the head of *Police and Constabulary* there is an increase of 461 in the number of the force in the year ending Sept. 29, 1863, over that of 1862, the number being 22,622, composed thus:—

Borough constables	6,471
County constables	8,190
Metropolitan police	6,590
Police in dockyards, &c. . . .	743
City of London police . . .	628

The increase in the metropolitan police is only 24, in borough constables 185, in county constables 181, in the dockyards 31. The total expense was 1,658,265*l.*, of which 1,248,318*l.* was for salaries and pay; allowances and contingent expenses, 35,988*l.*; clothing and accoutrements, 131,978*l.*; superannuations and gratuities, 58,746*l.*; horses, harness, forage, &c., 33,305*l.*; station-house charges, printing, stationery, &c., 114,582*l.*; other miscellaneous charges, 35,368*l.* Of the total cost, 417,881*l.* was for the police of boroughs, to which the public revenue contributed 82,441*l.*; for counties the charge was

628,445*l.*, and of this 121,433*l.* was paid by the Treasury; the metropolitan police cost 513,052*l.*, of which 140,845*l.* was paid by the Treasury; the dockyards police cost 49,362*l.*, all paid by the Treasury; and the City of London police, 49,225*l.*, all defrayed by the City. The average cost per man of the whole force was 73*l.* 6*s.* 0*d.*, but this includes expenses not fairly chargeable to the police, such as medical attendance and refreshments for sick and destitute prisoners, and for horses, vans, and premises.

Criminal Classes.—In 1863 ending at Michaelmas there was a decrease of 912 from 1862. In the classes of known thieves and receivers of stolen goods there was a decrease of 1913, and in that of suspected persons, 1524; of prostitutes there was a decrease of 1,156, and of those under sixteen of 118. The numbers as given stand thus:—

		Males.	Females.	Total.
Known thieves and depredators	under 16	3,149	1,053	4,202
Ditto	over 16	18,396	5,447	29,843
Receivers of stolen goods	under 16	42	25	67
Ditto	over 16	2,876	678	3,554
Prostitutes	under 16	..	1,389	1,389
Ditto	over 16	..	27,411	27,411
Suspected persons	under 16	2,977	999	3,976
Ditto	over 16	23,472	5 040	28,512
Vagrants and tramps	under 16	4,162	3,145	7,307
Ditto	over 16	17,617	8,258	25,875
Total	under 16	10,330	6,611	16,941
	over 16	62,361	46,837	109,198
	Total	72,691	53,448	126,139

There were also in local prisons (not including debtors and military prisoners) 17,960; in convict prisons, 8,018; and in reformatories, 3,268; a total of 155,385, an increase of only 17 over the number in 1862. The metropolis continues to hold its rank in the scale of morality, having only 1 of the criminal class in 243 of its population; while the agricultural towns, Ipswich, Exeter, Reading, Shrewsbury, Lincoln, Winchester, Hereford, and Bridgwater, have 1 in 105; and the pleasure towns of Brighton, Bath, Dover, Leamington, Gravesend, Scarborough, and Ramsgate, have 1 in 81. The cotton towns give 1 in 139; the woollen towns, 1 in 128, a considerable increase; while the seats of the hardware manufactures, Birmingham, Wolverhampton, and Sheffield, have 1 in 108; and the commercial ports 1 in 116 of the criminal classes, and 1 in 223 of prostitutes, given separately, while the metropolis has only 1 in 576, the hardware towns only 1 in 587, the woollen towns 1 in 590, the agricultural towns 1 in 271, and the pleasure towns 1 in 247. In the rural districts, the number of the criminal classes as well as the proportion of prostitutes had decreased, while in the pleasure towns there is an increase of both.

The number of houses of bad character show a decrease on the total of 594, but a trifling increase in the number of beer-shops and public-houses. The numbers are as follow:—

Houses of receivers of stolen goods	2,580
Public-houses, resorts of thieves and prostitutes	2,238
Beer-shops ditto	2,461
Coffee-shops ditto	434
Other suspected houses ditto	1,585
Brothels, &c.	7,204
Tramps' lodging-houses	6,208
	22,710

During the year, the police had information of 52,211 indictable crimes, and 30,410 persons had been apprehended. The winter quarters are most prolific in crime; the quarterly returns of crimes committed and persons apprehended were—

	Crimes.	Apprehensions.
Oct. to Dec.	14,356	8,195
Jan. to March.	13,606	7,719
April to June.	12,380	7,407
July to Sept.	11,869	7,089
	52,211	30,410

Of the persons apprehended, 23,100 were males and 7,310 were females; 6,335 males and 2,913 females were discharged; 47 males and 22 females were discharged on bail to appear if required; 1,284 males and 270 females were bailed to appear for trial; 58 males and 11 females were committed for want of sureties; and 15,376 males and 4,094 females were committed for trial. Of the crimes committed, 2966 were offences against the person, including 121 cases of murder; 5,433 were offences against property with violence, 39,801 offences against property without violence, 762 malicious offences against property, 1,869 forgery and offences against the currency, and 1,380 not included in the above classes, such as riot, attempts to commit suicide, offences against the game laws, indecency, &c. Altogether, there were 20,018 persons tried, 16,461 males and 4,357 females; of these, 4,986 were acquitted or discharged, 33 were not tried or acquitted on the ground of insanity. The commitments for murder were 83, of these 30 were females; of the whole, 13 were detained as insane, 29 were convicted, 22 were left for execution, and 7 had their sentences commuted to penal servitude for life. The total number of convictions was 15,799, of which 1,835 were for offences against the person (including those for murder already

mentioned), 1,704 for offences against property with violence, 10,832 for offences against property without violence, 337 for malicious offences against property, 623 for forgery and offences against the currency, and 468 for other offences not included in the foregoing classes. Of the punishments, 20 were sentenced to penal servitude for life (exclusive of those whose sentences for murder were commuted), 31 for more than 15 years, 81 for periods between 15 and 10 years, 570 for periods between 10 and 6 years, 705 between 6 and 4 years, 734 for 4 years, and 930 for 3 years. Of imprisonments for shorter periods, varying from 3 years to 1 month, sometimes accompanied with whipping, there were 12,251. There were 240 sent to reformatories and industrial schools, and 208 were whipped and discharged.

In the summary proceedings before magistrates there was an increase of 12,855 charges, the number for the year ending at Michaelmas, 1863, being 421,863, of whom 336,845 were males and 85,018 were females. Of these, 235,221 males and 48,320 females were convicted; that is, 69·8 per cent. of the males, and 56·9 per cent. of the females. Of those convicted, 99 were imprisoned for periods exceeding six months, 2,875 for periods of not more than six months nor less than three months, 8,277 for periods between three and two months, 11,832 for periods between two months and one month, 23,435 for one month and not less than 14 days, 27,762 for less than 14 days, 978 were sent to reformatory schools, and 228 to industrial schools, 171,981 were fined, 388 were whipped, 11,077 were ordered to enter into recognizances or to find sureties for good behaviour, 1,830 were delivered up to the army or navy, and 22,879 condemned to other punishments. Of the charges, larcenies or attempts to steal numbered 45,785, a decrease of 2·4 per cent.; malicious offences against property, and trespass, 4,860, an increase of 13·6 per cent.; assaults, 86,723, an increase of 9·2 per cent., the assaults on women and children having increased 6·4 per cent., and the increase of assaults on peace officers was 9·5 per cent.; offences against the game laws, 9,638, a decrease of 463, night poaching only giving 686 to the whole; for being drunk and disorderly, 94,745; vagrancy, 32,373; offences against local acts and borough bye-laws, 22,883; against highway and railway laws, 20,333; police acts, 16,470; licensed victuallers' and beer acts, 11,635; laws relating to servants, apprentices, and masters, 8,504; weights and measures act, 5,915; mutiny acts, 3,588; poor-law acts, 7,441; nuisances and offences against health, 4,264. The classes from which the offenders are furnished, in both the criminal and summary proceedings, are shown in the following table:—

Characters.	Proceeded against on Indictment.		Proceeded against Summarily.	
	M.	F.	M.	F.
Known thieves	4,833	1,209	12,411	3,158
Prostitutes	..	1,644	..	18,988
Vagrants, tramps, and others without visible means of subsistence	851	140	15,479	4,927
Suspicious characters	5,890	1,200	35,950	6,014
Habitual drunkards (not under the above heads)	500	113	21,883	6,014
Previous good character	5,219	1,205	133,802	18,246
Character unknown	5,807	1,799	117,320	28,281
Total	23,100	7,310	336,845	85,018

Coroners' Inquests.—In 1863 there were 22,757 inquests, on 15,770 males and 6,987 females; an increase of 11·3 per cent. on the males, and of 9·2 per cent. on the females. Verdicts of murder were found in 141 cases of males and 129 of females; of the total, 166 were cases of infants of 1 year old or under. There were 203 verdicts of manslaughter, 4 of justifiable homicide, 1,385 of suicide, 9,952 of accidental death, 2,397 were found dead, 210 died from injuries of which the causes were unknown, by natural death 8,336, including 323 from drunkenness, and 140 from want, cold, and exposure. Of the whole number, 3,664 were on infants under a year old, and of these 985 were illegitimate; 2,842 were above 1 year and under 7 years, 1,306 were between 7 and 16, 8,165 were between 16 and 60, and 2,383 were 60 and above, and 321 of ages unknown. The total cost of the inquests was 71,017*l.*, an average of 3*l.* 2*s.* 5*d.* per inquest; a decrease of 10*d.* per inquest, but an increase on the total amount of 5,915*l.*

Prisons.—The total number of commitments to prison during the year ending Sept. 29, 1863, was 144,519, an increase of 2,777, or 1·9 per cent., above the preceding year, the greatest increase being on summary convictions. Of the whole number 109,441 were males and 35,078 were females. There were committed for trial and tried 21,419 persons; on summary convictions, 95,952; for want of sureties, 2,695; remanded and discharged, 10,461; for debt and on civil process, 12,414; and for military and naval offences, 2,578. There were 45,037 recommittals, a decrease of 4,498; of the total, 1,173 males and 2,773 females had been com-

mitted more than ten times; and 942 males and 1,001 females between ten times and seven times. When once thoroughly depraved, females seem, from this constantly recurring disproportion, to be less restrainable than males. It exists, as we have remarked in previous years, almost entirely in these two classes. Of the other commitments, 14,388 males and 4,428 females had been committed once previously; 5,929 males and 2,316 females twice; and 7,947 males and 4,140 females from three times to less than seven. Of the total commitments, exclusive of debtors and military prisoners, 1,549 were under 12 years of age; 6,910 were 12 and under 16; 27,018 were 16 and under 21; 44,066 were 21 and under 30; 25,306 were 30 and under 40; 14,684 were 40 and under 50; 6,365 were 50 and under 60; 340 were above 60; and of 229 the age was not ascertained. The total is 129,527, an increase on the whole, with an increase of 110 in the numbers under 16. The offenders were thus distributed according to their birth-places:—England, 100,568; Wales, 3,327; Scotland, 2,420; Ireland, 19,501; colonies and East Indies, 581; foreign countries, 1,879; not ascertained, 1,251; an increase in every class except those of the class not ascertained. The state of instruction seems to vary little from 1862; but there was a fractional increase of those who could neither read nor write, and a fractional decrease of those who could read and write well. The numbers were—

	Males.	Females.
Neither read nor write .	31,717	13,492
Read, or read and write imperfectly	58,447	20,162
Read and write well . .	4,027	554
Superior instruction . .	226	22
Instruction not ascertained	623	257
Total .	95,040	34,487

The occupations were—

	Males.	Females.
No occupation	5,983	16,800
Domestic servants . .	1,164	3,468
Labourers, charwomen, needlewomen . . .	50,567	9,176
Factory workers . . .	4,322	2,596
Mechanics and skilled workers	23,249	872
Foremen and overlookers of labour	146	5
Shopmen, shopwomen, clerks, &c.	1,532	68
Shopkeepers and dealers .	2,538	1,162
Professional employments	251	13
Sailors, marines, soldiers .	4,598	—
Occupations not ascertained	690	327
Total .	95,040	34,487

An increase in prison accommodation of 166 is shown in the returns for 1863; and there was ample room for the highest number of prisoners confined at one time during the year, the number of prisoners provided for being 27,421, while the greatest number of persons in confinement at one time was 23,293, and the daily average through the year was 18,806; but in 41 prisons (there are 147 altogether) the greatest number provided for was occasionally exceeded; and at Coldbath Fields, Portsmouth, Chester, Scarborough, and Salford the daily average was in excess of the accommodation. The number of deaths in prison had been 218, exceeding those of the preceding year by 29. Cases of sickness were still numerous, 62,376 being the total number, of which 57,705 are termed slight indispositions, probably the results of previous excess, or the change of diet and habits; and there were 133 cases of insanity. The greatest number of sick at one time had been 1,864. In the year there had been 51,010 prison punishments; 139 whippings, 105 handcuffs, 13,996 solitary or dark cells, 34,961 stoppages of diet, and 1,809 other punishments. Of the total, 6,133 were women—a larger proportion than last year; none of them were whipped, and only 24 were handcuffed. The number of criminals in prison at the commencement of the year was 18,243; the committals during the year were 144,519; the discharges and removals, including removals to reformatories and other prisons, with deaths, &c., were 147,595; and there remained at the end of the year 18,900. The total cost for prisons and prisoners was 547,414*l.*, an increase of 19,624*l.*; the increase on buildings and establishment charges being 15,888*l.*, and on ordinary annual charges 3,552*l.*; while the charge for prisoners shows a decrease, owing, no doubt, to the cheapness of provisions, of 5,009*l.* The average annual cost for each prisoner was, for buildings and fittings, 5*l.* 14*s.* 8*d.*; for ordinary annual charges, repairs, fuel, furniture, printing, &c., 5*l.* 5*s.* 11*d.*; for officers, attendants, &c., 10*l.* 1*s.* 7*d.*; and for diet, clothing, &c., 7*l.* 19*s.* 11*d.*; a total average of 29*l.* 2*s.* 1*d.*, or, omitting the charges for buildings and fittings, 23*l.* 7*s.* 5*d.*, a decrease in 1863 of 15*s.* 1*d.* per head. But the average varies greatly. In Oakham county jail and house of correction, where the numbers are small, it reaches 101*l.* 16*s.* 2*d.*; at Lincoln jail it was 58*l.* 13*s.* 3*d.*; while at Salford house of correction, where it was lowest, it was not more than 15*l.* 1*s.* 0*d.* The prison receipts for the year, consisting chiefly of the product of prisoners' labour, was 37,885*l.*; the local rates yielded 400,082*l.*; and 109,446*l.* was defrayed from the public revenue. In the 10 convict prisons, and in Leicester, Wakefield, and Leeds, in which convicts are detained, and in which there has been no alteration of their purposes, there were 7,776 convicts undergoing sentence at the commencement of the year, of whom 6,558 were males and 1,218 females: there was an addition during the year of 3,012 males and 429 females, making a total of 11,217. Of these 727 were sent to Western Australia; 210 to Gibraltar; 16 were removed to county jails; 47 to lunatic asylums, of whom 8 were females; 262 males and 34 females were discharged on the termination of their sentence; 1,458 males and 304 females on tickets of leave; 12 males and 1 female on commutation of sentence, and 12

males were pardoned; 87 males and 23 females died; 1 committed suicide; and 3 males escaped: there were thus 3,199 disposed of in the year, leaving 8,018 in confinement at its close, 6,743 males and 1,275 females. The punishments during the year greatly increased; they numbered 9,320, of which 62 were of corporal punishment, the others solitary cells, stoppage of diet, and similar minor punishments. The cost of the convict establishments for the year was 271,617*l.*; the average annual cost of each prisoner, 33*l.* 14*s.* 5*d.*; while the productive labour had produced 9,056*l.*, and the sale of old stores and other receipts amounted to 6,230*l.* At Portland, Portsmouth, and Chatham the value of the convicts' labour is estimated at an average of 24*l.* 14*s.* 1*d.* per head, and is not included here. The criminal lunatics under detention at the beginning of the year numbered 865; there were received during the year 283; of the total, 53 died, 6 escaped, 38 were discharged on becoming sane, 7, on becoming sane, were removed for trial or punishment, and 115 were removed to other asylums. There remained under detention 929. The total charge for the year was 29,947*l.*, an increase of 1,686*l.* over the charge for 1862. This amount is furnished from county rates, 4,419*l.*; borough rates or funds, 1,252*l.*; parish rates, 5,935*l.*; public revenue, 16,260*l.*; and from private funds, 2,080*l.*

Reformatory Schools.—In 1863 the reformatory schools decreased by one, one having been discontinued. The number is now 51. In the year 910 had been committed to them, of whom 177 were girls. Of the whole, 398 boys and 37 girls had been previously in prison, one above ten times, and all underwent short periods of imprisonment before being sent to the reformatory, where they were to be detained for periods varying from two years to five years, to which last period 398 were sentenced. Of the whole, 339 boys and 89 girls could neither read nor write; 343 boys and 77 girls could read and write imperfectly; 40 boys and 11 girls could read and write well; and of 10 the state was not ascertained. Their ages were—59 under 10 years of age, 83 under 11, 146 under 12, 147 under 13, 216 under 14, 195 under 15, and 44 under 16. Their crimes included—4 for burglary, 34 for house-breaking, 5 for arson and wilful burning, 1 for cattle stealing, 3 for receiving stolen goods, 7 for the unlawful possession of goods, 5 for embezzlement, 800 for larcenies, 12 for vagrancy, and other items make up the remainder. At the commencement of the year there were 3,295 youthful offenders in the reformatories, and, in addition to the 909 committed, there were 32 admitted from other certified reformatories, 29 from prison after confinement, 41 re-admitted after absconding, and 10 from leave of absence or service—making a total for the year of 4,316. There were 536 discharged by order of the Secretary of State, 366 on completion of their terms of detention, 52 had absconded, 45 committed to prison for refractory conduct, 30 removed to other reformatory schools, and 19 had died—a total of 1,048. The number remaining in the schools at the end of the year was 2,573 boys and 695 girls. The cost paid by Government, at rates varying from 4*s.* to 7*s.* per head, was 51,694*l.*; and the sum of 2,243*l.* was recovered from the parents; the increase of the charge on the Treasury from the previous year being 3,150*l.*

Industrial Schools.—The constitution of the Middlesex Industrial School at Feltham remains as it was. It is for boys only; none are admitted under 7 nor above 14 years of age: a previous commitment to prison is not necessary, and the children may be sent to the school by any two or more justices on any conviction punishable on summary or other convictions. On Sept. 30, 1862, 563 juvenile offenders were under detention in the school. During the year ending Sept. 29, 1863, 186 were committed, making a total of 750 who were under confinement within the year. Of this number, 1 was discharged on licence, 187 on the completion of their respective terms of detention; 4 absconded and were not retaken; 3 were committed to prison for refractory conduct, and 1 died: 196 were thus removed from the school, leaving 554 under detention on Sept. 29, 1863. This number shows a decrease of 9 upon the number remaining on Sept. 29, 1862; of the number admitted, were 16 after being convicted on indictment; 170 on summary conviction by the magistrates; 176 were committed under sentence of 3 years' confinement; 10 for 2 years or less; 30 of those committed were 10 years of age or less; 28 were 11 years of age or above 10; 43, 12 years or above 11; 73 were 13 or above 12; and 12, 14 years or above 13. Of 17 of the boys committed, both parents were dead; of 67, one parent was dead: 7 of the boys had been deserted by one of their parents; 3 were otherwise uncontrolled by one of their parents; 1 by both; 77 were under the control of one parent; 91 of both; 36 of the boys had been once previously committed; 7 had been twice previously; 5, three times; 138 of the whole number were sent to the school on their first conviction; 143 of the whole number, were committed for larcenies; 3 for attempts to steal; 6 for unlawful possession of goods; 2 for fraudulent offences; 1 for embezzlement; 1 for house-breaking or shop-breaking; 3 for malicious offences; 1 for assault; 11 for vagrancy; and 3 found in places for unlawful purposes. Of the number admitted 102 could neither read nor write; 80 read and wrote imperfectly; and 4 could read and write well. The cost per head, payable by the county, was 24*l.* 9*s.* 1*d.*; and the total recovered from the parents was 419*l.*

The number of industrial schools certified under the Act of 1861 and the former Acts, up to Sept. 29, 1863, was 27. The number under detention also has considerably increased, the commitments during the past year, under the provisions of the Act of 1861, having amounted to 308—237 males and 71 females. Adding to these 477—325 males and 152 females—the number remaining at

the close of the preceding year, a total appears of 785—562 males and 223 females—as the number who were under detention during the year ended Sept. 29, 1863. Of these, 19 males and 10 females were discharged on suitable employments being found; 1 male on security being found; 30 males and 7 females on completing the term of detention; 4 males and 4 females were removed to reformatory schools; 5 males on attaining the age of 15; 2 males and 1 female by order of Secretary of State; 4 females died; 17 males and 4 females absconded; a total of 108; leaving 484 males and 193 females at the close of the year. The cost of maintenance had been 8,147*l.*; of which only 153*l.* had been recovered from the parents.

The *Second Part* of the *Judicial Statistics* relates to the departments of the Civil Law.

In the *Courts of Common Law* in 1863, there were issued 100,042 writs of summons, 608 writs of capias, 27,043 appearances were entered, 36,166 judgments and 25,737 executions issued. There were 2,251 causes entered for trial at Westminster, and 1,162 were tried, of which 223 were undefended. Of those defended, 304 were tried in the Queen's Bench, 340 in the Common Pleas, and 295 in the Exchequer. At Nisi Prius 1,366 causes were entered, of which 311 were heard in the Queen's Bench, 225 in the Common Pleas, and 423 in the Exchequer, and there were 48 entered, of which 38 were tried on circuit from the Common Pleas of Lancaster and Durham, and from the Court of Probate. The total amount of fees received in the three Courts was 64,537*l.* The total amount recovered in all the suits was 263,084*l.* There were but three suits for sums above 5,000*l.*, 8 for sums between 5,000*l.* and 3,000*l.*, and 319 for sums between 50*l.* and 20*l.*

In the *County Courts* there were 799,254 plaints, including 420 sent from the superior courts; and the causes determined were 442,305, of which 877 were with a jury. The judgments were—for plaintiff, 252,344; for plaintiff by consent, 171,168; for plaintiff by default, 822; non-suited, 8,893; for defendant, 9,068. The total amount for which plaints were entered was 1,842,749*l.*; the amount recovered was 939,576*l.*, exclusive of 39,164*l.* for costs; and the fees on all proceedings amounted to 263,400*l.* There had been issued 129,922 executions against goods, and 4,075 sales made; 27,861 warrants of commitment, upon which 8,588 debtors had been imprisoned. The number of plaints in the year showed a decrease of 48,034 from those of the previous year. In the local *Borough*, *Hundred*, and *Manorial Courts*, of which there are thirty-three named, several have had no business, and others very little. In eight of the Courts there were no suits. In the Sheriffs' Court of London there were 11,723 plaints entered for sums below 20*l.*, and 115 for sums above 20*l.*; the whole amount claimed was 37,844*l.*, and judgments were given in 5,328 suits for 17,915*l.*; there were 1,607 judgment summonses issued, 1,261 executions against goods, and 57 debtors were imprisoned. In the Liverpool Court of Passage, there were 1,580 plaints for sums below 20*l.*, and 1,828 for sums above 20*l.*; and judgments were obtained by plaintiffs to the amount of 48,653*l.*; there were 438 executions against goods issued, and 204 sales, but there were no debtors imprisoned. In the Manchester Court of Record there were 3,757 writs issued; the total amount claimed was 43,345*l.*, and judgments were obtained for 16,999*l.* In the Salford Hundred Court of Record there were 2,487 writs issued for sums below 20*l.*, and 412 above; the claims were 29,280*l.*, and judgments were obtained for 10,526*l.* In the Bradford Manor Court there were 2,389 plaints, all for sums of less than 20*l.*, but the total amount claimed and the sum recovered is not stated. In the Bristol Tolzey Court the plaints were 464, the amount claimed 13,350*l.* and the judgments were for 3,614*l.* In no other court were there so many as 350 suits, and the whole amount claimed was 159,485*l.*, exclusive of Liverpool, for which only the amount recovered is given, and of Bradford, for which no amount is given, and of which the aggregate above given is 108,166*l.* Two other local Courts, the London Lord Mayor's Court and the Stannaries Court, for Devonshire and Cornwall, are of a peculiar character. In the Stannaries Court there were but 93 processes, in the departments of equity and common law; the winding-up of mining companies had ceased, except in regard to some unincorporated companies. In the Lord Mayor's Court, 4,334 actions were entered for an aggregate of 103,080*l.*, of which 21,581*l.* were recovered on judgments; but verdicts for 102,236*l.* were given in compensation cases under the Metropolitan Meat and Poultry Market Act; and 454,445*l.* were brought before the Court on 700 foreign attachments, that is, money or goods attached in the city by some creditor on affidavit of debt: the results are imperfectly shown, as the proceedings usually lead to a private settlement.

Court of Bankruptcy.—The abstract now gives the returns for 1862 and 1863, both ending on Oct. 11. In 1862 the total number of adjudications was 9,663, and of these 3,524 were in the London District Court, 2,164 in the County District Courts, and 3,975 in the County Courts. Of the total number, 4,543 were for debts under 300*l.* The total gross produce realised from bankrupts' effects was 647,094*l.* In 6,910 cases there was no dividend; in 550 there was a dividend, but in 240 of them it was under 2*s.* 6*d.* in the pound. Of trust-deeds there were 2,651 registered; and in the Master's office 5,263 bills were taxed, the aggregate amount of which was 111,939*l.*, and 9,962*l.* struck off.

In 1863 the number of adjudications was 8,470, of which 2,949 were in the London District Court, 1,672 in the County District Courts, and 3,849 in the County Courts. Of the total 3,524 were for debts under 300*l.* The gross produce realised from the bankrupts' estates was 698,598*l.* There was no dividend

in 5,630 cases; in 996 cases there was a dividend, but in 459 of them it was less than 2*s.* 6*d.* in the pound; in 20 cases 20*s.* in the pound was paid. Of trust-deeds there were 3,016 registered; and in the Master's office 4,745 bills were taxed, of which the amount was 94,262*l.*, and 8,681*l.* was disallowed.

High Court of Chancery.—In the Appellate Courts of the Lord Chancellor, the Lords Justices, the Master of the Rolls and the three Vice-Chancellors, in the year ending Nov. 2, 1863, there were 701 summonses to originate proceedings, and 17,207 other summonses; 12,188 orders were made, and 878 advertisements issued; 5,248 debts were claimed upon, and the amount proved was 1,953,259*l.*; there were 1,044 accounts passed, on which 6,637,586*l.* were received, and 6,082,000*l.* disbursed or allowed. The sale of 539 estates under the orders of the Court realized 1,487,569*l.*; and 94 estates were bought, for which the returns do not state what sum was given. As regards orders for winding-up companies, 2,869 persons were declared included in lists of contributors, and 159 excluded; the amount of calls made was 473,079*l.*; the amount received on calls or by way of compromise was 158,868*l.*; other assets realized were 262,920*l.*; there were dividends paid to creditors to the amount of 313,183*l.*, and 31,967*l.* ordered to be returned to contributors: the fees levied in stamps amounted to 10,021*l.* There were 347 titles directed to be investigated; 2,255 certificates filed; 41,300 appointments by summons, adjournment, &c., disposed of; 2,453 orders waiting for accounts or inquiry; and 106 winding-up orders were still pending.

In the Appellate Courts the Registrars entered for hearing at the commencement of the year 398 pleas, demurrers, causes, claims, rehearings, and appeals; 2,042 were set down during the year; 1,820 were heard; 148 were otherwise disposed of; and 472 remained at the close, Nov. 2, 1863. The chief other business of the Registrars' Office is returned under the following heads:—Orders made on the hearing of petitions under the Winding-up Acts, 39; on the hearing of other petitions, 2,485; on the hearing of special motions, 1,107; on summons drawn up by the Registrars, 6,513; on motions or petitions of course, 629; certificates for the sale, transfer, or delivery of stock or other securities, 2,936; and the amount of fees levied by stamps was 12,894*l.* The evidence of 338 witnesses was taken by the examiners, and the fees paid by stamps was 201*l.* In the office of the Clerks of Records and Writs there were 3,077 suits instituted, and the total fees collected amounted to 26,186*l.*

In the Courts of Chancery there were 2,004 petitions entered, of which 13 were for hearing before the Lord Chancellor himself, 135 before the Lords Justices, 412 before Vice-Chancellor Kindersley, 713 before Vice-Chancellor Stuart, and 731 before Vice-Chancellor Wood; the fees amounted to 1,556*l.* Before the Master of the Rolls there were 756 petitions entered on causes, and 2,903 for orders of course; and the fees were 1,903*l.*

The Taxing-masters made 3,301 orders and references for taxation, 2,852 certificates and allocations, and taxed 7,014 bills; the amount of costs taxed was 729,739*l.*; the fees levied on suitors were 21,827*l.*

The Masters in Lunacy made 60 inquiries, and 167 reports to the Lord Chancellor as to the property, kindred, and maintenance of lunatics and their families. The summonses for proceedings before them numbered 4,010; the amount of receipts in the accounts passed by them was 402,784*l.*; and that of disbursements allowed, 344,794*l.*

The Accountant-General's return states that 17,202,895*l.* were paid into Court in the year ending October 1st, 1863, and that 15,672,509*l.* had been paid out of Court; the total number of accounts was 25,050; the amount of cash, securities, &c., carried over was 2,157,800*l.*; and the amount of fees collected by stamps was 645*l.*

The Suitors' Fund for the year ending Oct. 1, 1863, produced an income of 155,593*l.*, arising from dividends on 3,897,854*l.* stock, 42,230*l.* balance in hand, and 490*l.* for rent of offices let to Commissioners of Patents; of this 80,958*l.* were carried over to the Suitors' Fee Fund, 57,664*l.* were disbursed in other payments, and 16,970*l.* was the balance in hand. The receipts of the Suitors' Fee Fund, from the fees levied on the suitors, were 96,027*l.*; and the total receipts, including those from the Suitors' Fund, were 190,667*l.*: the payments and deductions were 190,310*l.*, leaving a balance of 357*l.* The payments from the two funds, amounting to 219,352*l.*, were distributed thus:—compensation in lieu of abolished offices, 56,965*l.*; salaries of officers, 124,845*l.*; pensions to retired officers, 13,545*l.*; rents, &c., of offices, 2,193*l.*; expenses of copying in the offices, 10,524*l.*; miscellaneous payments, 11,280*l.*

The *Court of Probate* in the year granted 8,496 probates, 4,333 administrations, and 910 caveats; there had been 11 trials by special jury, 11 by common jury, and 25 before the judge only. The amount of fees in court and contentious business was 1,614*l.*, the taxed costs were 5,185*l.*, and the amount of stamps issued for probate and administration was 740,873*l.* By the 40 district registrars, 14,268 probates, and 5,851 letters of administration in common form, and 14 probates and 4 letters of administration under the judge's direction, were granted; the caveats against grants numbered 246; the total amount of fees received was 60,122*l.*, and that of the duty stamps was 549,415*l.*

Court for Divorce and Matrimonial Causes.—In the year 1863 there had been 323 petitions filed in matrimonial causes, of which 7 were for nullity of marriage, 255 for dissolution, 43 for judicial separation, 9 for restitution of conjugal rights, and 9 in formâ pauperis. There were 12 applications for

protection of property, and 89 for alimony. There were 701 summonses, and 468 citations issued; 216 appearances were entered, and 237 answers filed. There were 237 trials, of which 58 were tried before the judge ordinary and a jury, 7 before the full Court, and the remainder by the judge ordinary, on oral evidence. There were 4 applications for new trials, but no appeals.

Admiralty Court.—At the beginning of the year, 170 causes were pending, and 485 were instituted during the year. The greatest number of the new cases were for salvage (77), and for damage by collision (199). The total amount for which all the causes were instituted was 683,261*l.* There were 193 judgments or decrees; 115 for plaintiffs, 39 for defendants, and 39 in causes by default. The costs amounted to 17,501*l.*

Judicial Committee, and Appeals to the House of Lords.—There were 60 appeals to the Privy Council entered in 1863, and 94 stood over from 1862; of these 40 were heard and determined, 8 were dismissed for non-prosecution. Of the cases heard, 26 of the judgments were affirmed, 1 varied, and 13 reversed. At the end of the year 90 causes remained for hearing. The Council office fees were 824*l.*; and in 30 appeals, in which the costs on one side only were taxed, the amount was 7,905*l.*, an average of something above 263*l.* for each case. In the House of Lords there were 50 appeals and causes in error entered in the year, and 35 stood over from 1862. There were 27 judgments delivered, 17 causes not prosecuted, 4 withdrawn, and 31 causes remained for hearing. The fees amounted to 1,449*l.*

Ecclesiastical Courts.—These are now reduced to the Arches Courts of Canterbury and York, and 28 Diocesan Consistory Courts. In 15 of them there was no business whatever. In the remaining 13, the number of suits was 22; 1 was abandoned, 7 were dismissed, and 5 are still pending; 14 were for church-rates, 1 for pew-rights, 1 against institution to a benefice, 2 for deprivation, 2 for preaching in a place of worship without consent of the incumbent, 1 to answer articles, and 1 sequestration for non-residence. There was only 1 stayed by prohibition, 6 interlocutory decrees, 1 suit agreed, 1 sequestration, 1 appealed against, and 2 in which nothing was prayed. The faculties applied for were 82, of which 71 were for altering, restoring, or repairing churches, and 3 for removing a body; of the whole, 81 were granted and 1 refused.

XI.—JUDICIAL STATISTICS OF IRELAND FOR 1863.

THESE statistics have been modelled on the form adopted in the compilation of the English statistics; but the compiler, Mr. W. N. Hancock, states, that from its being the first general collection of them, there has been a necessity for taking the year in some cases as ending at an earlier date than Dec. 31, which has been adopted wherever possible; and that, in a very few instances, the information is not complete from the deficiency of the returns. From this interesting document we abstract the following results, the arrangement of which is made to correspond with those of England.

The *Constabulary* consists, like the police of England, of three divisions—the Metropolitan Police and the County and Town Constabulary. The total number was 13,894; of whom 1,079 formed the Dublin police; 12,337 were for counties and towns; and 478 were what is termed a local force, consisting of superintendents, inspectors, constables, watchmen, fire brigade, &c. The total gives an average of 1 to every 417 of the population; but the proportion varies in the different counties, the highest being the North Riding of Tipperary, where it is 1 to every 195; the lowest, Londonderry, where it is 1 to 1,000. The total cost for the year was 780,111*l.*, of which 66,997*l.* only was furnished by local taxation, the remainder being paid out of the general taxes. There are also 72 stipendiary magistrates who are paid as public officers.

Criminal Classes.—From the return,—which, however, must be considered as imperfect, as no previous attention had been given to the subject—it would appear that the criminal classes in Ireland were greatly less in proportion than in England, being but 1 in 260, while in England they are 1 in 159: the greatest difference is in the classes of known thieves and depredators and prostitutes, in which the proportion is less than half that of England; but in "receivers of stolen goods" and "vagrants" the Irish proportion is somewhat greater than in England. Another singularity is, that in the total number the females exceed the males, while in England they form only about two-thirds. There is no separate statement of the principal towns, except Dublin, which, compared with London, shows the remarkable fact of being greatly in excess, having 1 of the criminal classes for every 137 of the population, while London has but 1 for every 243; and of prostitutes 1 in 341, while London has but 1 for every 576. Being the first year of the returns there is no information as to the increase or decrease of these classes with reference to previous years. The numbers stand thus:—

Characters.	Males.	Females.	Total.
Known thieves and depredators under 16 .	271	99	370
Ditto over 16 .	1,729	1,155	2,884
Receivers of stolen goods . . under 16 .	8	10	18
Ditto over 16 .	749	466	1,215
Prostitutes . . . . . under 16 .	..	46	46
Ditto over 16 .	..	3,419	3,419
Suspected persons . . . . under 16 .	289	139	428
Ditto over 16 .	2,237	1,773	4,010
Vagrants and tramps . . . under 16 .	1,673	1,726	3,399
Ditto over 16 .	3,471	3,030	6,501
Total . . . { under 16 .	2,241	2,020	4,261
{ over 16 .	8,186	9,843	18,029
Total . . .	10,427	11,863	22,290

To these must be added 5,162 confined in prisons or reformatories.

The houses of bad character are specified thus:—

Houses of receivers of stolen goods .	1,116
Resorts of thieves and prostitutes .	1,540
Brothels and houses of ill fame . .	657
Tramps' lodging-houses	3,149
	6,462

The total number of indictable crimes was 16,794, and there is little difference in the quarters, as all four are above 4,000, and the number of persons apprehended for them was 9,214, of whom 6,595 were males, and 2,619 females; of these 1,845 males and 856 females were committed for trial; 2,299 males and 371 females were bailed for trial; and 172 males and 142 females were committed for want of sureties; the rest were discharged or bailed. There were 6,078 tried in the Criminal Courts—a decrease of 588 from the previous year; 4,667 males and 1,411 females; of the total, 2,773 were not prosecuted, or otherwise acquitted, and 20 were insane; 3,285 were convicted of the crimes committed; of the total of committals, 1871 were for offences against the person, including 22 charges of murder, with only 4 convictions, 3 of the convicts being hung, and 1 sentenced to six months' imprisonment: and 1 was hung for hiring another to commit a murder; 997 being the total of the convictions in this class. The offences against property with violence were 431; against property without violence, 2,228; malicious offences against property, 148; forgeries and offences against the currency, 81; and offences not included in the above classes, 1,319. Exclusive of the 4 convictions for murder, there were 518 sentenced to various periods of penal servitude, 2,180 to various terms of imprisonment, 538 to whipping, fine, &c., and 45 were respited or pardoned. Of the total number committed for trial, 1,916 could read and write, 795 could read only, 1,973 could neither read nor write, and of 1,394 the state was not ascertained.

Of *offences determined summarily*, the total number proceeded against was 227,333, of whom 186,690 were males and 40,643 females; of these 155,942 males and 31,082 females were convicted. Drunkenness furnished 60,646 of the offenders; common assaults, 39,984; offences against the Highway and Turnpike Acts numbered 39,984; and against the Stage and Hackney Carriage Acts, 6,993. None of the sentences exceeded six months, and 141,169 were punished by fine.

The costs of prosecution, exclusive of prosecutors' and witnesses' expenses, were 60,081*l.*

Coroners' Inquests. — These numbered 2,922; those on males being 2,031, on females 891. The ages and the finding of the juries have not been given. The cost was 7,486*l.*

Prisons.—The number of committals to prison in the year was 33,940, of which 19,276 were of males, and 14,664 of females. Of the whole 1,445 were convicted felons; 1,146 were convicted of misdemeanours, and 20 were criminal lunatics. Imprisoned on summary convictions there were 26,932; of persons acquitted or against whom there were no bills found or no prosecution, there had been 3,953; and 444 were untried prisoners on the last day of the year. There were 14,058 wholly illiterate, 1,345 knew the alphabet, 1,202 could spell, 7,192 read imperfectly, 9,844 read and wrote, and of 299 the education was not ascertained. The total expenses of the jails had been 83,110*l.*, of which 2,518*l.* was furnished by the labour of the prisoners, 9,185*l.* from the Government, and 71,407*l.* from local rates.

Reformatory Schools.—Of these there are four for boys and five for girls in Ireland; three are for Protestants and six for Roman Catholics. During the year there were 153 committals, of whom 113 were boys and 40 girls; of the whole, 60 could neither read nor write, 64 could read and write imperfectly, 20 could read and write well, 3 had had superior instruction, and of 6 the state

was not ascertained. None had been previously imprisoned more than four months; and of the whole only 24 had been under parental control, having lost one or both parents by death or been deserted by them, or having them in prison. There are no industrial schools in Ireland except those attached to the workhouses.

Civil Courts—Queen's Bench.—In the year there were 4,089 writs of summons and plaints filed, and 2,087 judgments of various kinds, the amount recovered on which was 472,974*l.*; the number of causes entered for trial was 110, of which 49 were defended, 3 undefended, 2 made remanets by consent, 22 withdrawn, and 34 struck out; the amount recovered was 2,108*l.*

Common Pleas.—There were 4,122 writs of summons and plaints filed, and 2,727 judgments; the amount recovered 202,527*l.* The number of causes entered for trial was 118, of which 60 were defended, 6 undefended, 2 made remanets, 47 withdrawn, and 3 struck out; the amount recovered was 4,583*l.*

Court of Exchequer.—The writs of summons, and plaints filed numbered 4,137, and the judgments 2,456; the amount recovered 383,362*l.* The number of causes entered for trial was 163; but the return is incomplete beyond.

Consolidated Nisi Prius.—The number of causes entered for trial was 211, of which 84 were defended, 15 undefended, 25 made remanets, 49 withdrawn, and 38 struck out; the amount recovered was 12,376*l.*

In the *Taxing Office*, 2,089 bills of costs were certified; the amount claimed was 56,947*l.*, the amount allowed 44,579*l.*; and the Law Fund duties were 559*l.*

On *Circuit.*—In the various Courts there were 293 causes entered for trial; of which 207 were defended, 38 undefended, 7 made remanets, 50 withdrawn, and 13 struck out or settled by consent: the amount recovered 12,668*l.* There were also appeals from Chairmen of Counties and Recorders, presentments and objections to them, claims for malicious injuries, &c., &c., to the amount of 896,598*l.*

In *Local Courts* and *Courts of Conscience* (there are only seven) there were 8,423 summonses issued, and 5,613 causes were heard. The decisions were 4,532 for the plaintiff, and 1,081 for the defendant; the sum recovered 4,422*l.*, or less than 20*s.* on each claim, and for this 858 executions were issued. The fees collected amounted to 664*l.*

Chancery.—Before the Lord Chancellor and the Master of the Rolls the cause petitions numbered 229; of these 210 were heard, 7 otherwise disposed of, and 12 awaited a hearing. There were also 461 petitions on various matters heard in Court (by the Lord Chancellor 73, by the Master of the Rolls 388). Altogether the sum of 811,559*l.* was received and 662,517*l.* disbursed; the fees received amounted to 4,519*l.* In the Secretaries' and other offices there is a considerable number of transactions likewise conducted, of which accounts are given.

Landed Estates Court.—At the commencement of the year there were 1,314 cases pending, and 1,061 others were presented, of which 456 were for sales of encumbered estates, and 50 for sales of unencumbered estates; besides cases for settling titles, for exchanges, for appointing new trustees, &c., &c. Sales have been had in 296 cases, the net rental amounting to 69,151*l.*, the purchase-money to 1,278,361*l.*, and the duty paid to the Court during the year 6,144*l.*

Court of Probate.—In the principal Court there were 1,040 probates and 607 administrations, and 413 caveats were entered. There were 139 causes, 14 trials by special jury, 7 by common jury, and 16 by the judge only. The fees received were 8,259*l.*, and the amount of taxed costs 10,210*l.*; the duty received is not stated. In the *District* Registries there were 796 probates lodged, 469 letters of administration, and 126 letters of administration with will annexed; 181 caveats were entered. The fees received amounted to 4,480*l.*, and the duty received amounted to 22,806*l.*

Ecclesiastical Courts.—The proceedings were very limited. The whole number of causes was but 64; of these, 17 were for sequestration on account of debt, 31 for faculties for altering or rebuilding churches, the rest for dilapidations, pew-rights, &c.

In the *High Court of Admiralty* the business was still more unimportant.

Courts of Bankruptcy and Insolvency.—The total number of petitions presented was 932; the gross amount of debts and liabilities stated was 2,113,115*l.*; the net sum proved 1,318,954*l.*; the gross amount of assets, as stated in balance-sheets, 1,241,284*l.*; the amount realised 519,370*l.*; the amount paid in dividends 246,259*l.*; the legal charges were 51,038*l.*; and the total allowance paid to official assignees 9,840*l.* During the year 335 cases were finally wound up.

XII.—ADMINISTRATION OF POOR LAW RELIEF.

In 1861 a Select Committee of the House of Commons was appointed "to inquire into the administration of the relief of the poor, under the orders, rules, and regulations issued by the Poor Law Commissioners and the Poor Law Board, pursuant to the provisions of the Poor Law Amendment Acts, and into the operation of the laws relating to the poor." The first sitting was held on March 1, 1861; witnesses were examined on all the points to which the attention of the Committee was directed, and early in 1864 the Report was presented, with the conclusions at which they had arrived and the suggestions as to further legislation.

The general subject is divided into separate heads, each treated of independently. The first relates to the *Metropolitan Distress*, 1860–1. In this winter the severe frost deprived a great number of persons employed on the river and in the docks, together with many market gardeners and others, of their employment. Great distress was occasioned, especially in parts of the City of London, Bethnal Green, Lambeth, Greenwich, and Poplar. During the five weeks of frost, from December 17 to January 19, the pauperism of the metropolis rose from its average of 96,752 to 135,389. An impression prevailed, supported by some public writers and speakers, that the Poor Law had broken down; that the regulations under which parochial and union relief was administered required to be modified; and that the funds placed at the disposal of the guardians were inadequate. Large sums of money were therefore voluntarily contributed, and intrusted to the clergymen and police magistrates of the suffering districts, for the relief of cases of urgent distress. Of the numbers relieved by this agency no accurate statement could be obtained; but the Committee state that "almost all the witnesses that were examined concurred in thinking that a great deal of absolute distress was relieved which otherwise might not have been relieved; but they thought that a large proportion of the charitable fund was wasted upon undeserving objects:" adding that the "tendency of such efforts to supply the supposed defects of Poor Law administration by voluntary agency, unless accompanied by a most careful organisation, with adequate supervision, is to encourage imposture." They admit, however, that such organisation is practicable, and that it has been shown in the case of the distress in Lancashire. The conclusion arrived at by the Committee is contained in the following resolution:—"That with respect to the extraordinary prevalence of distress in the metropolis in the winter of 1860-61, to which the attention of your Committee was particularly directed, they received strong evidence that such distress could have been relieved by the Poor Law authorities, inasmuch as the legal machinery of administration was sufficient, and the guardians possessed the requisite powers for raising the necessary funds for the purpose; but the legal charge would have pressed very heavily on some parishes within the metropolis. The regular action, however, of the Poor Law was, to a considerable extent, rendered unnecessary by voluntary contributions; and however desirable it is that in great emergencies destitution should be relieved by spontaneous charity, your Committee find that on the occasion in question, evils resulted from the want of a sufficient organisation for the investigation of the cases of the persons relieved."

Petitions referred to the Committee.—These were referred as containing allegations against the continuance of the powers and authority exercised by the Poor Law Board. On examination they were found to contain nearly the same allegations, and to suggest the same alterations of

the law. The chief alterations suggested were—that the guardians should be invested with greater discretion in the administration of out-door relief; that the power possessed by the Poor Law Board to issue general orders should be restricted; and that the guardians should have uncontrolled power of appointing and dismissing the officers of the union. After examining witnesses, and among them the chairmen, vice-chairmen, and clerks of the parishes petitioning, the resolution of the Committee stated that "it was clear that, in the great majority of cases, the petitions had been adopted and presented to Parliament without deliberation, and without any clearly defined views as to the limitation of the powers of the Poor Law Board."

Continuance of Central Authority.—As to this, the witnesses examined were principally the chairmen, vice-chairmen, and clerks of Poor Law Unions, and their opinions in favour of the continuance of a central authority were nearly unanimous; the Committee, therefore, resolved:—"That the continuance of a central authority is essential for securing the due and uniform administration of the laws for the relief of the poor; and your Committee are of opinion that it would contribute to its efficiency if it were placed upon a permanent footing."

Power of Poor Law Board to issue General Orders.—Under this power the Board have issued, among others, two orders, one on December 21, 1844, usually known as the Prohibitory Order; the other on December 14, 1852, the Out-door Relief Regulation Order. The first is in force in agricultural, the second in manufacturing unions; "and each order contains such numerous exceptions as to provide for all cases to which the general rule would be inapplicable." Witnesses were examined, who desired that more discretion should be allowed to the guardians in granting out-door relief, but their views were vague and general, and no cases of hardship or suffering were proved to have resulted from the limitation of the power of the Guardians; while it is obvious, the Committee observe, "that if uniformity of principle is to be observed, the administration must be regulated by fixed rules and orders of a general character." They, therefore, do not recommend any extension of power to the guardians, and resolve, "that the power of issuing General Orders now possessed by the Poor Law Board is salutary and useful, and should be continued."

Continuance in Office of Paid Officers.—Such officers are now selected and appointed by the guardians, subject to the sanction of the Board, by whom the salaries assigned to such officers must also be approved. But the power of dismissing such officers, after being once duly appointed and approved, rests solely with the Poor Law Board. It was urged upon the Committee by several witnesses that this power should be in the guardians, as being the best judges of the conduct and capacity of their officers; but the Committee, after observing that the guardians already possess that power as to the inferior officers, say:—"It appears to your Committee that if the tenure of the office of the latter (the superior) class of officers was altogether uncontrolled by the central authority, they would not only perform their office less independently, but would be subject to removal from personal bias, political causes, and various other motives;" and they resolve that it is not desirable to extend the powers of the guardians in this direction.

Superannuation of Paid Officers.—A plan was proposed to the Committee for forming a Superannuation Fund, partly by assessment on the ratepayers, and partly by compulsory deduction from the salaries of the officers. This was rejected; but the Committee recommended that "a power should be conferred upon Boards of Guardians to provide at their

discretion for the superannuation of certain union officers, the exercise of such power to be subject to the control of the central authority." [This has been adopted: see cap. 42, Abstract of Acts, p. 182.]

Medical Relief.—A Special Committee of the House of Commons investigated this subject in 1854. They did not recommend any change in the regulations of the Poor Law Board framed in 1847, which are yet in force; but they advised that attention should be given to the medical districts, to reduce them when inconveniently large, to appoint additional medical officers in such cases, to revise the salaries, which, in some cases, appeared to be inadequate, and that the officers should hold their offices permanently. The present Committee then notice the orders of the Poor Law Board, carrying out the recommendations of the Select Committee: that of February 15, 1855, which provided that every workhouse medical officer, and every district medical officer, with the requisite professional qualifications, should hold his office permanently; the order of May 25, 1857, which provided that, on a change of the extent of a medical district being found necessary for the more convenient distribution of medical relief, and the medical officer in charge declining to acquiesce in the change, the guardians, with the consent of the Poor Law Board, might annul the appointment. They then notice the increase that had taken place in the number of medical officers, the additional facilities afforded to the poor, the higher payment of the medical officers, and the large increase of the expense. In 1840 there were 2,376 medical officers; in 1861 there were 3,479. The expenditure in 1838 for medical relief was 136,775*l.*; in 1861 it was 238,233*l.* Mr. Griffin, the Chairman of the Poor Law Medical Relief Association, has proposed giving the right to medical relief, but in some cases by way of loan, to all persons applying and declaring themselves destitute of the means of obtaining such relief; the right to convert into private patients persons so attended by the medical officer who may be in the receipt of 20*s.* per week; the right of imperatively ordering articles of food and stimulants that he considers necessary for his patients; the establishment of stores and stations for such articles on his unrestricted orders; the introduction of a complicated system of remuneration, and the payment of various additional fees; a provision for superannuation; the exemption from turnpike tolls when visiting pauper patients; from assessed taxes on one-horse carriage and man servant; from excise duty on spirits of wine used in the medicines for the poor; the appointment of a medical secretary, to adjudicate upon all matters relating to the medical relief of the poor, subject to the confirmation of the Poor Law Board. "It is evident to your Committee that many of the changes advocated by Mr. Griffin, and the distribution of food, wine, and other articles of nutriment, at the unchecked discretion of the medical officer, would unquestionably increase the expenditure for the relief of the sick, and diminish to a serious extent the control and responsibility of the guardians." But looking at the improvement in the remuneration, the status, and the increase of the medical officers, and not finding that the poor have any difficulty in obtaining competent medical assistance, they resolved "that there was no sufficient grounds for materially interfering with the present system of medical relief, which was made the subject of special and lengthened inquiries by Select Committees of this House in the years 1844 and 1854;" but they recommend "that, in future, cod-liver oil, quinine, and other expensive articles, shall be provided at the expense of the guardians, subject to the orders and regulations of the Poor Law Board."

Audit of Union and Parish Accounts.—Considerable attention was given to this subject, and witnesses were examined. The evidence showed that

the alteration made under the 7th and 8th Vict., cap. 101, by which district auditors were substituted for auditors elected by each Board of Guardians, acting separately for each union, led to greater uniformity of proceeding, and more careful expenditure of the funds of the poor. The change had, however, given rise to some dissatisfaction, as it restricted the powers of the parochial officers, by whom modifications were suggested; but the Committee think the true remedy would be found rather in an extension than in any modification, and that "a better definition of the incidental expenses which the guardians may incur, and a more careful selection of the persons who are to discharge the duties of an auditor," would be best calculated to reconcile all interests. They, therefore, propose that all auditors should in future be appointed by the Poor Law Board; that their time should be wholly devoted to the duties of their office; and that their number should be reduced so as to afford occupation for their whole time, and admit of their being fully remunerated. To effect this the Poor Law Board should have power to reconstruct Audit Districts, and be enabled to transfer the services of an auditor from one district to another, either alone or with the assistance of another auditor.

Though it was shown to the Committee that large defalcations occur on the part of union and parochial officers, yet they are inconsiderable in comparison with the amount raised and expended. They have chiefly occurred with assistant-overseers and collectors, and a more vigilant audit, they say, may probably discover more frequent instances. The Committee therefore recommend that the auditors should have power to inspect all rate-books and books of account relating to the collection and expenditure of poor-rates, without being required to give formal notices. The Committee found that entire rates had been kept from the knowledge of the auditors, thus admitting of embezzlement or unauthorised expenditure; and they propose to prevent this, by compelling the overseers, under a penalty, to obtain the justices' allowance to every poor-rate, and that no poor-rate should be allowed except at petty sessions. The interest accruing from sums in the hands of the treasurers of unions, or lodged with bankers, has also been used for making payments disallowed by the auditors. To prevent this, it should be made compulsory on overseers to lodge the money collected from ratepayers with a banker selected by the vestry, the overseers being then exempted from personal loss in case of failure of the bank.

Unions and Parishes under Local Acts.—With reference to the administration of the Poor Law in some of the metropolitan parishes, after examining witnesses, the Committee resolved: "That it is necessary to the uniform action of the Poor Law, that the central authority should have the same power in unions and parishes now acting under local statutes, or under the Gilbert Act, as in unions or parishes under the Poor Law Amendment Act."

Religious Rights of the Inmates of Workhouses and District Schools.—Numerous witnesses were examined upon this subject, amongst whom a great diversity of opinion prevailed. The Committee, however, consider that it is evident, from the laws and orders of the Poor Law Board, "that every intention has existed to afford religious freedom to all inmates of workhouses and pauper schools, and to protect them against any undue interference with their religious persuasion and predilections." They state that they have received complaints of the inadequacy of these regulations, noticing especially the evidence of a Roman Catholic priest, and of a gentleman of very opposite views. To give full effect to the obvious intention of securing religious freedom, they recommend—1. The keeping of a creed register, open to all clergymen and ministers of religion

officiating within the union. 2. That any such clergyman or minister, subject to the regulations of the Poor Law Board, shall be at liberty, whether sent for or not, to visit the inmates of his own creed, and to assemble such inmates in some convenient place, for a reasonable time, on such days, not being less than one in each week, as the guardians may appoint. 3. In case of an inmate for whom no religious service according to his own creed has been provided in the workhouse, he is to be permitted to attend some place of worship of his own denomination, if within a convenient distance. 4. That orphans under twelve years of age, not belonging to the Established Church, may be sent, on application to the Poor Law Board, to any school of their own denomination, either certified as an industrial school, or licensed by the Poor Law Board under the 25 and 26 Vict., cap. 43, the managers of which shall be willing to receive such children, upon being paid at the average cost of the maintenance of the inmates of the workhouse of the union or district from which they may be sent, but the guardians are not to be required to pay the travelling expenses of such child. 5. That in substitution of the orders of the Poor Law Board of August 23, 1859, it shall be ordered that every master of a workhouse district school shall enter into the list the religious persuasion of every child under fourteen years of age, the religious creed of the father, if ascertainable, or of the mother, and that the religion of an illegitimate child should be that of the mother; that such child shall not be instructed in any other religious creed, unless he or she, if beyond the age of twelve, shall desire to be instructed in some other creed, and the Poor Law Board shall consider such child competent to decide on the subject; that a minister of the religious persuasion of such child shall, subject to the regulations of the guardians, be permitted to attend the workhouse or schools for the purpose of affording it religious instruction; and that, failing other evidence, the baptismal register of the child shall be evidence of its religious persuasion, and that the evidence on which the entry of religion has been made shall be recorded. 6. That the inmates of the workhouse shall be allowed the use of such books as may be sanctioned by the Poor Law Board. 7. That in workhouses and pauper schools, where there is a numerous body of any particular denomination, it would be desirable to afford some remuneration to the attending minister.

Education of Pauper Children.—After stating that, under the circumstances, the state of workhouse education is satisfactory, the Committee add: "That it would be inexpedient, and in some cases impracticable, to enforce the establishment of district or separate schools; but they are of opinion that schools entirely distinct from the workhouse should be encouraged, as being attended with beneficial results to the children, and affording the most effectual means of separating them from the other class of paupers;" but they object to the proposal of "compelling guardians to insist upon the education of the child as a condition of out-door relief." They recommend, also, that sec. 6 of the 14 and 15 Vict., cap. 105, limiting to 20 miles to which children may be sent to a separate or district school, should be altered, so as to allow of children being sent to a greater distance, subject to such regulations as the Poor Law Board may make.

Classification of Workhouses.—After noticing the ill effects of a want of classification, the difficulty of effecting it without the concurrence of guardians, who are often unwilling to furnish the means on account of the expense, urging the desirableness of not exposing innocent females to the contamination of association with those of a depraved character, and of removing children from the infirmary in which adults are received, they close with the following resolution:—"That in many cases the

union workhouses are insufficient for the purpose of the proper classification of the inmates, and your Committee consider it desirable that greater power should be given to the Central Board than that which they now possess, to require guardians to make adequate arrangements for such classification."

Casual and Houseless Poor in the Metropolis, and Vagrants.—The resolutions submitted to the House on this subject were very important. They were as follows:—"That in order to secure sufficient and convenient means for the relief of the casual and houseless poor within the metropolis, as defined by the Metropolitan Local Management Act, it is expedient that the charges incurred for the support of such poor should be paid out of a rate assessed on the annual rateable value of the said metropolis. [This has been embodied in an Act, see p. 196.]

Equalization of Poor-Rates.—A large number of witnesses were examined on this subject, and as results, the Committee say that the objections to enlarging the area of rating, on the ground that it would lead to extravagance, apply less to union rating than to schemes which contemplate a larger area; that the Act 24 and 25 Vict., cap. 55, by which the cost of the irremoveable poor was thrown upon the common fund of the union, has somewhat modified the disparity which existed between some parishes; that "to make the union instead of the parish the element for the charge of relief as well as for regulating the administration, would only be following out the principle of the Poor Law Amendment Act itself, which empowers the guardians, with the consent of the Poor Law Commissioners (sec. 33 and 34), to agree that the whole union shall be considered as one parish for the purpose of settlement and of rating;" but these sections have been practically inoperative, as they require the consent of all the elected guardians before such an arrangement can be made. But though these measures, and the adjustment of parochial rates under the Union Assessment Act of 1862, have rendered the inequality between parish and parish somewhat less, the Committee point out that in many densely-populated single parishes in the metropolis, not in union, instead of being benefited by the Irremoveable Poor Act, they are oppressed by additional poor, who but for those Acts would have been removeable, adding that in such parishes "persons are there employed without any consideration to their becoming chargeable, and in the case of labouring men, their place of abode is very frequently in some other parish than that in which they are employed;" that if persons buying a property in a low-rated parish find themselves more heavily burthened, others find the same, especially in the poorer parishes, from the destruction of whole districts by street improvements, railways and other large works, "whereby the working poor are deprived of their dwellings, and necessarily driven to find them in places already impoverished." Fully sensible of the difficulty of dealing with this part of the subject, the Committee submit to the House the following resolutions:—"That much evidence was adduced showing the unequal pressure of the charge for the relief of the poor in different parts of the metropolitan district; and various plans were submitted to your Committee for the equalization of the poor rate; and your Committee recommend the general question of extending the area of rating to the further consideration of the House; but the circumstances of the metropolis are so peculiar, that in any legislation to extend the area of charge or management, it would be necessary to have regard to those circumstances; that any measure for the extending of the area of rating should, in the opinion of the Committee, embrace provisions for making the whole cost for the poor in each union chargeable on the common fund of the union."

XIII.—CHRONICLE OF THE SESSION OF PARLIAMENT, 1864.

[27-28 Victoriæ.]

Feb. 4. THE Sixth Session of the Sixth Parliament of the present reign was opened by Royal Commission. The Queen's Speech, which was read, began by congratulating both Houses on the birth of a son to the Prince of Wales. It then referred, at some length, to the affairs of Denmark and Germany; more shortly, to the attack on Kagosima, in Japan; to the insurrection in New Zealand; and to the surrender of the Ionian Islands to the kingdom of Greece. It promised the House of Commons a due attention to economy in the preparation of the estimates; congratulated the Houses on the general prosperity of the country, notwithstanding the continued depression of the cotton trade, which it was trusted would be gradually relieved by increased supplies of the raw material from extended sources; announced the appointment of a commission for revising the forms of subscription and declaration to be made by the clergy of the Established Church; and concluded with a prayer for the welfare and happiness of her loyal and faithful people. In the House of Lords the Address was moved by the Marquis of Sligo, and, after some objections from the Earl of Derby, and a reply by Earl Russell, the Address was agreed to. In the House of Commons the Address was moved by Lord Richard Grosvenor, and was agreed to, without a division, after some remarks by Mr. Disraeli, and a reply from Lord Palmerston.

Feb. 8. (COMMONS.) Leave was given to introduce a number of new Bills: to the Chancellor of the Exchequer, for allowing the making of malt duty-free for the feeding of cattle, and for regulating the appointment of collectors of the land-tax, assessed taxes, and income-tax, so as to avoid the inconvenience at present arising from their occasional defaults; to Sir G. Grey, for amending the Act "for making further provision for the confinement and maintenance of insane prisoners," rendered needful in consequence of its having been used to remove Townley, convicted of murder, from the operation of the law; and Mr. M. Gibson obtained the appointment of a committee to "consider the best method of dealing with the railway schemes proposed to be sanctioned within the limits of the metropolis," to act in concert with a similar committee to be appointed by the House of Lords.

Feb. 9. (LORDS.) In answer to questions, Earl Russell said Prussia and Austria had given no guarantee as to any withdrawal from Schleswig; and that Mr. Seward had written to Mr. Adams a demand for an indemnity for the damage done by the Alabama, but that the despatch had not been communicated to the Government.

Feb. 15. (COMMONS.) After some discussion, the Insane Prisoners' Act Amendment Bill was read a second time. On the motion for the second reading, the Malt for Cattle Bill was carried without a division; as was the Government Annuities Bill.

Feb. 16. (LORDS.) The Lord Chancellor gave an account of the proceedings under the Augmentation of Benefices Acts: 37 livings had been disposed of, producing 65,300*l.*; and 53 others were under negotiation. The Earl of Carnarvon then moved for a return of the claims made by the United States on Great Britain for damages done by the Alabama and other Confederate cruisers; and, with some modifications, the returns asked for were ordered.

(COMMONS.) Mr. M. Gibson introduced a Bill to facilitate the obtaining of powers, or for the extending such powers, for the construction of railways.

Feb. 17. (COMMONS.) Mr. Laird moved the second reading of the Chains, Cables, and Anchors Bill, which enacts that they be uniformly tested before using. After a short discussion as to some of the details, it was agreed to without a division.

Feb. 18. (COMMONS.) On the motion of Sir R. Peel, the Vestry Cess Abolition (Ireland) Bill was read a second time. Sir George Grey moved for leave to introduce a Bill to amend the Penal Servitude Acts, and leave was given after a short debate.

Feb. 23. (COMMONS.) Mr. Locke King obtained leave to bring in a Bill to extend the franchise in counties to occupiers of the annual value of 10*l*. Mr. Hibbert called attention to the demoralizing effect of public executions, proposing that they should be conducted out of sight, as in many foreign countries. Sir George Grey thought it would be neither expedient nor safe to adopt such a change, and the motion for certain returns was withdrawn after a short discussion. After a warm debate, the motion was rejected by 178 against 153.

Feb. 24. (COMMONS.) The Malt for Cattle Bill was considered in Committee; and the Insane Prisoners' Act Amendment Bill was read a second time.

Feb. 26. (COMMONS.) On the motion of Colonel Dunne, with the consent of the Chancellor of the Exchequer, a Committee was appointed to consider how far the present taxation of Ireland was in accordance with the provisions of the Union. The Malt for Animals Bill passed through Committee.

Feb. 29. (LORDS.) The Marquis of Westmeath inquired whether the Government would take any measures with regard to M. Mazzini, who had been incriminated in the recent trial of the conspirators against the Emperor of the French. Earl Russell replied that he had no evidence of any complicity on the part of M. Mazzini, and the Executive had no power to interfere without such evidence, and therefore no measures would be taken. The Insane Prisoners' Act Amendment Bill was read a second time.

(COMMONS.) A portion of the Naval Estimates and the Vestry Cess Abolition (Ireland) Bill passed through Committee.

March 1. (COMMONS.) The Report of the Committee of Supply was brought up and agreed to. The Malt for Cattle Bill, and the Conveyancers' (Ireland) Bill, were read a third time and passed.

March 3. (COMMONS.) The Marquis of Hartington moved the Army Estimates, which he said were for 14,844,888*l*., a decrease of 215,349*l*. from that of last year, the number of men being 146,766. After a discussion, in which considerable opposition was expressed against any reduction in our means of defence, the resolution was agreed to.

March 5. (LORDS.) A Bill for adding a public whipping to the punishment now inflicted, in cases of conviction for rape, was read a first time, and on the motion of Lord Granville it was ordered that a number of bills, relating to railway extension in the metropolis, in pursuance of the recommendations of the joint Committee, should not be proceeded with this session.

(COMMONS.) The Chancellor of the Exchequer entered upon a detail of the reasons for introducing the Government Annuities Bill; and after considerable discussion, the debate was adjourned.

March 8. (Lords.) The Postmaster-General stated that Sir Rowland Hill had resigned his position in the Post-Office on account of ill-health; he expressed his regret for the cause, in which he felt sure their lordships would join, of the retirement of the man who had introduced and completed an improvement "which had perhaps conferred more benefit on mankind than any other invention."

March 9. (Commons.) The second reading of the Metric Weights and Measures Bill, introduced by Mr. Ewart, rendering it permissive to use the metrical or decimal system, after much discussion, was carried by 90 against 52.

March 10. (Lords.) Sir J. Lawrence's Salary Bill was read a third time and passed.

(Commons.) In a Committee of Supply the Navy Estimates were brought forward. The vote for the payment of 175,350*l.* for the redemption of the Scheldt dues was passed, as also a supplementary vote for 409,000*l.* for the army, chiefly owing to the war expenses in New Zealand.

March 14. (Commons.) Mr. Stansfeld brought forward a vote for the naval artificers in a statement of considerable length, which, after a discussion, was agreed to without a division.

March 15. (Lords.) The second reading of the Malt for Animals Bill, after a short discussion, was agreed to. In Committee on the Vestry Cess Abolition (Ireland) Bill, the principal clause (§ 4) was rejected by 34 to 27.

(Commons.) Mr. Baines obtained leave to bring in a Bill for reducing the Borough Franchise from 10*l.* to 6*l.*

March 16. (Commons.) Mr. Dodson, in moving the second reading of the Tests Abolition (Oxford) Bill, explained that its object was, by abolishing the test, to open degrees to persons of any religious sect. A long debate ensued, Sir William Heathcote and Mr. Selwyn opposing it as separating the University from the Church, but it was carried by 211 to 189.

March 17. (Commons.) Sir H. Stracey moved a resolution that, "the statement of the Procureur-General, on the trial of Greco, implicating a member of the House and of Her Majesty's Government in the plot for the assassination of our ally the Emperor of the French, deserves the serious consideration of this House." Mr. Stansfeld (the person alluded to) denied any participation in the plot; expressed his belief that the accusation against Mazzini was equally unfounded; explained his relation with that gentleman, who, he said, had had letters for him addressed to his house under the name of Fiore (Flower), but of the contents of which he was ignorant; adding that, on accepting office, M. Mazzini had ceased to have any so addressed. After a debate of some length the House divided; 161 in favour and 171 against the resolution.

March 18. (Lords.) The royal assent by commission was given to the Navy and Army Mutiny Acts, Sir J. Lawrence's Salary, the Consolidated Funds Bills, and some others.

(Commons.) The Collection of Taxes Bill was passed through Committee. Both Houses adjourned for the Easter holidays.

April 4. (Commons.) On reassembling, Mr. Stansfeld announced that, believing from the manner in which he had been attacked with reference to his friendship for Mazzini that his retention of office would be an embarrassment to the ministry, he had resigned. Lord Palmerston was convinced of the complete innocence of his hon. friend, and regretted his loss, as a colleague of unswerving integrity and

untiring industry. A number of resolutions on the Navy Estimates were passed in Committee after some discussion, but without any division.

April 5. (Lords.) On presenting a petition from Southwark, complaining of the demolition of workmen's houses to make room for railways, the Earl of Derby suggested that, in all Metropolitan Railway Bills, a clause should be inserted, providing that two trains in and out of London, morning and evening, should be run by each railway, for the convenience of workmen, at the rate of 1*s.* a week for any distance not exceeding ten miles. Earl Grenville said the suggestion should receive the consideration of Government.

April 6. (Commons.) The Jersey Courts Bill, for altering the modes of proceeding in the law courts of that island, and the Registration of County Voters (Ireland) Bill, were read a second time. The Chain Cables and Anchors Bill passed through Committee.

April 7. (Commons.) The Chancellor of the Exchequer introduced his Budget. The formal resolutions were then moved, after he had detailed his proposed measures at great length, and the Chairman of the Committee was ordered to report progress after a few observations and questions for explanations from various members.

April 8. (Commons.) The Life Annuities and Life Assurance Bill was read a second time.

April 11. (Commons.) After some discussion, with the consent of the Chancellor of the Exchequer, the Government Annuities Bill was referred to a Select Committee. The Army Estimates passed through Committee.

April 12. (Lords.) The Bill for adding flogging to the punishment of persons acting as accomplices in criminal assaults on women was read a second time, after some remarks on the inefficient sentences under the present law passed by some of the judges.

(Commons.) Lord R. Cecil moved a resolution that the mutilation of the Reports of Inspectors of Schools was a violation of the understanding under which the appointment of Inspectors had been originally sanctioned; stated cases in which the information thus given had been withheld, and that as presented the Reports were not trustworthy. Mr. Lowe denied that the Reports were garbled, but that when the Inspectors diverged into discussion, gave arguments instead of reporting facts, they were returned to them for correction. Mr. Walter and others took part in the debate, asserting that passages in the Reports were marked; and the resolution was carried by 101 to 93.

April 13. (Commons.) Mr. Locke King moved the second reading of a Bill for extending the franchise in counties to occupiers of the annual value of 10*l.* After some debate the House divided, and the second reading was negatived by 254 to 227. The Trespass (Ireland) Bill, and the Registration of County Voters (Ireland) Bill, passed through Committee, and some items of supply were voted.

April 18. (Lords.) Earl Granville, referring to the resolution passed by the Commons on April 12, defended the Council of Education from the censure passed upon it. He said that, as President of the Council, he was the responsible person, morally and officially, and he denied, as Mr. Lowe had done, that reports had been mutilated. He trusted that a Committee would be granted, in which all the circumstances would become known, and he had no fear of the result. The Union Relief Continuance Bill, and the Land Drainage Bill, were read a second time; and the Vestry Cess Abolition (Ireland) Bill was read a third time.

(Commons.) Mr. R. Lowe stated to the House that, in consequence of

the vote of April 12, he had resigned the office of Vice-President of the Board of Education; but he thought that the vote, which he considered imputed to him a want of veracity, had been passed in mistake. Lord R. Cecil disclaimed the intention of impeaching Mr. Lowe's veracity. Lord Palmerston regretted the resignation of Mr. Lowe, which all his colleagues had endeavoured to prevent, and should move for the appointment of a Committee. The Penal Servitude Acts Amendment Bill passed through Committee, after an amendment had been carried, providing that the holder of a ticket-of-leave must report himself to the police upon any change of residence. Several other Bills were forwarded a stage.

April 19. (Lords.) The Landed Securities Company and the Improvement of Land Act Amendment Bills were read a second time.

April 20. (Commons.) The Grand Juries (Ireland) Bill was thrown out on the second reading, after a long debate, by 150 to 27; several other Bills were advanced a stage; and Mr. M'Mahon obtained leave to introduce a Bill to amend the law as to Oyster Fisheries in Ireland.

April 21. (Commons.) The Chancellor of the Exchequer desired to contradict certain absurd rumours relative to the curtailment of Garibaldi's visit, contradicting most explicitly that it had been occasioned by any political interference.

April 22. (Lords.) The Earl of Ellenborough introduced a Bill to amend the present practice with regard to the remission of capital sentences, which was read a first time. The Earl of Derby moved a resolution that in every Metropolitan Railway Bill a provision should be made for cheap trains, morning and evening, for the labouring classes, who were experiencing increased difficulties from the destruction of dwellings suited to their means by the extension of railways into the heart of the town. Lord Stanley of Alderley approved the suggestion, adding that the principle should be applied to the extension of existing lines, and the resolution was adopted.

April 25. (Commons.) The Penal Servitude Acts Consolidation Bill was withdrawn. The Partnerships Law Amendment Bill was read a second time after some opposition from Mr. Hubbard. The Charitable Assurances Enrolment Bill passed the Committee; and Mr. O'Hagan obtained leave to bring in a Bill to amend the Court and Practice of Chancery in Ireland, assimilating them to those of England.

April 26. (Lords.) The Vagrancy (Scotland) Bill was read a first time; the Mortgage Debentures Bill a second time; and the British Spirits Warehousing Bill a third time.

(Commons.) On the motion of Lord R. Montague, a Select Committee was appointed to inquire into any plans for the utilization of the sewage of the metropolis and other large towns. The Lord Advocate introduced a Bill to amend the system for the registration of writs relating to land in Scotland; and the Charitable Assurances Enrolment Act was read a third time and passed.

April 28. (Lords.) The royal assent was given by commission to a number of Bills. An Amendment was moved on the third reading of the Punishment of Rape Bill, that whipping should be inflicted only at the discretion of the judge, and was carried by 55 against 20.

April 29. (Commons.) The Penal Servitude Acts Amendment Bill was considered in Committee and some amendments agreed to. The Superior Courts of Common Law (Ireland) Bill was introduced and read a first time.

May 2. (COMMONS.) The Customs and Inland Revenue Bill was reconsidered; an amendment for improving the Sugar Duties for one year only was negatived by 95 to 14; in a Committee of Supply the Navy Estimates were discussed, and several items were agreed to.

May 3. (COMMONS.) Mr. Bass introduced a Bill for the better regulation of street music in the metropolis. The Partnership Law Amendment Bill was considered in Committee.

May 4. (COMMONS.) The Weights and Measures Metric System Bill was considered in Committee, and postponed in order to allow the Government to propose certain modifications. The Promissory Notes and Bills of Exchange (Ireland) Bill was read a third time and passed.

May 5. (COMMONS.) In a Committee of Ways and Means the Army Estimates were passed, after some discussion and two divisions. The Under-Secretaries' Indemnity Bill was read a second time, and other Bills were advanced a stage.

May 6. (LORDS.) The Lord Chancellor brought in a Bill for the limitation of actions and processes for small debts, to amend the Acts relating to County Courts, and to give them a limited jurisdiction in equity; stating that the power of imprisonment for extremely small sums had worked ill, and that this power would be confined to cases of fraud, and be made to inflict a real punishment. By one clause a debt contracted for intoxicating liquors consumed on the premises is not recoverable under this Act.

May 9. (COMMONS.) The House passed the remainder of the Army Estimates. The Under-Secretaries' Indemnity Bill was read a third time and passed. The Partnership Law Amendments Bill was considered in Committee, and other Bills were forwarded a stage.

May 11. (COMMONS.) Mr. Baines moved the second reading of the Borough Franchise Bill, of which the object was to extend the right of voting for Members of Parliament from 10*l.* householders to 6*l.* The Chancellor of the Exchequer supported the motion, on the ground of the improvement of the moral character and material progress of the middle and working classes, and the desirability of deciding such questions before any popular agitation should arise. A discussion and division took place, and the Bill was rejected by 272 votes against 216.

May 12. (LORDS.) The Under-Secretaries' Indemnity Bill was read a second time, and the Customs and Inland Revenue Bill a third time and passed.

(COMMONS.) Sir George Grey moved for a Select Committee to inquire into the practice of the Committee of Council of Education with respect to the Reports of the Inspectors of Schools, rendered desirable, he said, in consequence of the resolution of the House on April 12, which had been arrived at under a mistake. Sir J. S. Pakington moved an amendment for extending the scope of the inquiry, which, after a discussion, in which the justification of Mr. Lowe was allowed to have been complete, was rejected by 142 to 93. The Civil Service Estimates then occupied the House, and many items were agreed to.

May 13. (LORDS.) The royal assent was given to the Customs and Inland Revenue Bill, Land Drainage Bill, Promissory Notes and Bills of Exchange (Ireland) Bill, and other public and private Bills. The second reading of the County Courts Bill was postponed till after Whitsuntide. The Lord Chancellor's Bill for adding a canonry to the Regius Professorship of Greek at Oxford was postponed by 55 votes to 25, as not being a satisfactory way of meeting the

difficulty, which it was admitted would be best remedied by the University itself.

May 19. (Commons.) After the Whitsun holidays the House met, and the Report of the Committee of Supply was brought up and agreed to. The Union Assessment Amendment Bill, the Railway Companies' Powers and Construction Facilities Bills, and one or two others were forwarded a stage. Mr. Dodson obtained leave to bring in a Bill to amend the Registration of County Voters, and Sir G. Grey to amend the Act for the better Management of Highways in England.

May 23. (Lords.) The Lord Chancellor moved the second reading of the County Courts Act Amendment Bill, and after some discussion it was read a second time. The Under-Secretaries' Indemnity Bill and the Common Law Procedure (Ireland) Act Amendment Bill were read a third time and passed.

(Commons.) A number of Bills were forwarded a stage without opposition.

May 26. (Commons.) The Civil Service Estimates and the Supplementary Navy Estimates were brought up and agreed to. To the Union Assessment Committee Act Amendment Bill certain new clauses were added; the Highway Acts Amendment Bill, the Vacating of Seats (House of Commons) Bill, the Army Prize (Shares of Deceased) Bill, the Beerhouses (Ireland) Bill, the Life Annuities and Life Assurances Bill, and others were forwarded a stage.

May 30. (Lords.) The Public Schools (Governing Bodies) Bill was read a first time.

(Commons.) On the Civil Service Estimates, the proposed vote of 4,000*l.* towards erecting a lunatic asylum for the Isle of Man was rejected by 95 to 73. Several Bills were forwarded a stage.

May 31. (Lords.) The Penal Servitude Acts Amendment Bill was read a second time, after a long discussion.

June 1. (Commons.) On the motion of Mr. Dodson for going into committee on the Tests Abolition (Oxford) Bill, the motion was opposed by Sir W. Heathcote, Lord R. Cecil, and others; and supported by Mr. Roebuck, Mr. Neate, Mr. Goschen, and others; and was ultimately carried by 236 to 226.

June 2. (Lords.) The Ecclesiastical Courts and Registers (Ireland) Bill, and the Summary Procedure (Scotland) Bill were read a second time; and a Bill to regulate the Oyster Fisheries was read a first time.

(Commons.) The Committee of five on the matter of the Inspectors' Reports was agreed to after a short conversation. The Court of Chancery (Ireland) and the Court of Queen's Bench (Ireland) Bills were read a second time; and the Report of the Committee of Supply was brought up and agreed to.

June 3. (Lords.) The Earl of Shaftesbury explained the objects of his Bill for the Better Prevention of the Employment of Climbing Boys in the Sweeping of Chimneys; it then passed through Committee.

June 6. (Lords.) The Lord Chancellor read a message from the Queen, recommending a grant of 20,000*l.* to Sir R. Hill, in addition to the pensions in acknowledgment of his services in the Post-Office. The Public Schools Bill, which provides that any person accepting office in a public school is to do so subject to any future legislation, was read a second time.

June 7. (Lords.) In Committee on the Penal Servitude Acts Amendment Bill, a debate took place on the clause requiring a convict

on ticket-of-leave to report himself once a month to the police; the Lord Chancellor suggested that it should be only when required; but the clause was carried by 49 to 41.

(COMMONS.) Mr. Caird moved a resolution that the collection and publication of the Agricultural Statistics of Great Britain would be advantageous to the public interest; it was opposed, but agreed to on a division by 74 to 62.

June 8. (COMMONS.) Mr. Lawson moved the second reading of the Intoxicating Liquors Bill, which provided that a majority of two-thirds of the qualified voters of any parish might, by vote, prevent the sale of such liquors within the parish. On a division, it was rejected by 292 to 35.

June 10. (LORDS.) The Chain Cables and Anchor Bill was read a second time. The report of Amendments on the Insane Prisoners Bill was agreed to. The Chimney Sweepers and Chimneys Regulation Bill was read a third time; and the Courts of Justiciary (Scotland) Bill passed through committee.

June 13. (COMMONS.) In a Committee of Supply, a resolution was passed to guarantee a loan of £1,000,000 to New Zealand. The third reading of the Collecting of Taxes Bill was adjourned, and the Public and Refreshment Houses (Metropolis) Bill was recommitted.

June 14. (LORDS.) On the motion of Earl Granville, the grant of 20,000*l.* to Sir Rowland Hill was agreed to. The Ecclesiastical Courts and Registries (Ireland) Bill was passed through Committee. The Court of Justiciary (Scotland) Bill was read a third time and passed.

(COMMONS.) The second reading of the Factory Acts Extension Bill was agreed to after some discussion.

June 15. (COMMONS.) The Cork Security Bill, the County Voters Registration Bill, and the Servants' Hiring (Scotland) Bill, were advanced a stage.

June 16. (LORDS.) The Chain Cables and Anchors Bill, and the Improvement of Land Act (1864) Bill, went through Committee. The Mortgage Debenture Bill, the Public Schools Bill, and the Scottish Episcopal Disabilities Bill, were read a third time and passed.

(COMMONS.) Amendments on the Inland Revenue (Stamps) Bill, relating to foreign bills of exchange and marine assurances, were agreed to, and the Accidents Compensation Act Amendment Bill was read a second time.

June 17. (LORDS.) The Lord Chancellor withdrew the County Courts Amendment Bill. The second reading of the Church Service (Apocrypha) Bill was discharged. Various clauses in the Penal Servitude Acts Amendment Bill were agreed to, and the Chain Cables and Anchors Bill was read a third time and passed.

(COMMONS.) The report of the Committee of Supply was brought up and agreed to.

June 20. (COMMONS.) The Government Annuities Bill was read a third time and passed. Sir George Grey moved the second reading of the Gaols Bill, explaining that it was intended to secure a more uniform system of discipline in the various prisons, which was agreed to, after an amendment by Mr. Newdegate for deferring it for three months had been negatived by 116 to 49.

June 21. (LORDS.) The second reading of the Attorneys' and Solicitors' Remuneration Bill was moved by the Lord Chancellor, which was agreed to, and referred to a Select Committee.

(COMMONS.) Mr. H. Berkeley moved that at the next General Election "it was expedient that a fair trial should be given to the Vote by Ballot." Lord Palmerston opposed it as inconsistent with the character of Englishmen, and the motion was rejected by 212 to 123.

June 22. (COMMONS.) In a Committee upon the Weights and Measures (Metric System) Bill, the clauses and schedule were agreed to after some discussion, and the Bill ordered to be reported.

June 23. (COMMONS.) Mr. Crawford moved the second reading of the Weighing of Grain (Port of London) Bill, which was agreed to, and the Bill referred to a Select Committee.

June 24. (COMMONS.) In Committee on the Inland Revenue (Stamp Duties) Bill, the Chancellor of the Exchequer introduced a clause for the payment of taxes in Scotland by means of a post-office order. The Chimney Sweepers' Regulation Bill, and the Weighing of Grain Bill, were forwarded a stage. On the order for going into committee on the Court of Chancery (Ireland) Bill, Mr. Whiteside moved to defer the Committee for three months, but the motion was negatived by 51 to 49. Repeated motions were then made for adjournment; Lord Palmerston gave way, and the Committee was adjourned.

June 27. (LORDS.) Earl Russell laid on the table the protocols of the conference on the Danish war, detailing the proceedings and the result.

(COMMONS.) The Civil Service Estimates were considered in Committee. The Chimney Sweepers' Regulation Bill and the Railway Construction Facilities Bill, were read a third time and passed. The Greek Loan Bill passed the Committee. The Contagious Diseases Bill, the Sheriff Substitute (Scotland) Bill, and the Mortgage Debentures Bill, were read a second time.

June 28. (LORDS.) The Brokers' Bonds and Rents Bill was thrown out on the second reading.

June 29. (COMMONS.) Mr. Kinglake gave notice that, on Mr. Disraeli moving his resolution, he should move an amendment—"To express the satisfaction with which we have learnt that at this conjuncture her Majesty has been advised to abstain from armed interference in the war now going on between Denmark and the German Powers." The Tests Abolition (Oxford) Act passed the Committee. In Committee on the Street Music (Metropolis) Bill, after considerable discussion, the consideration was adjourned.

June 30. (COMMONS.) The Civil Service Estimates were considered in Committee, and many of the items passed. On taking into consideration the Lords' amendments to the Penal Servitude Acts Amendment Bill, Mr. Hunt moved to disagree to that which dispenses with the necessity of male license-holders reporting themselves monthly to the police, which was carried by 129 to 23. The Greek Loan Bill was read a third time and passed.

July 1. (COMMONS.) In Committee, Mr. Gladstone moved that the Treasury be allowed to guarantee the loans to the Metropolitan Board of Works, the effect of which would be the lowering of the rate of interest from 4½ per cent. to 3¾; agreed to. The Factory Acts Extension Bill, and the Railways (Ireland) Acts Amendment Bill, were read a third time and passed. The Indemnity Bill was read a second time; and the Drainage and Improvement of Lands (Ireland) Bill passed through Committee. On the order for the third reading of the Tests Abolition (Oxford) Bill, Sir W. Heathcote moved to defer it

for three months; this was negatived by 150 to 140: after considerable excitement had been evinced a division took place on the third reading, which resulted in an equality of votes, 170 on each side: to allow the House an opportunity to decide for itself, the Speaker voted for the third reading, and then, on the motion that the Bill do pass, the division gave, ayes 171, noes 173, and the Bill was lost. The Street Music (Metropolis) Bill passed through Committee after several divisions.

July 4. (Lords.) The Earl of Malmesbury gave notice that, on the 8th, he would move a resolution identical with that of Mr. Disraeli. The Government Annuities Bill, the Superannuation (Union Officers) Bill, and others passed through Committee; the Greek Loan Bill was read a second time, and the Valuation of Rateable Property Bill was read a third time and passed.

(Commons.) Mr. Disraeli moved "a humble address to her Majesty, to thank her Majesty for directing the correspondence on Denmark and Germany, and the protocols of the Conference recently held in London, to be laid before Parliament. To assure her Majesty that we have heard with deep concern that the sittings of that Conference have been brought to a close without accomplishing the important purposes for which it was convened. To express to her Majesty our great regret that, while the course pursued by her Majesty's Government has failed to maintain their avowed policy of upholding the integrity and independence of Denmark, it has lowered the just influence of this country in the councils of Europe, and thereby diminished the securities for peace." After a long discussion, the debate was adjourned. The report on the Inland Revenue (Stamp Duties) Bill was considered, and some amendments proposed by the Chancellor of the Exchequer. The Public Schools Bill was read a second time; the India Office Bill, the Judgments, &c., Law Amendment Bill, and the Local Government Act Amendment Bill, passed through Committee.

July 5. (Lords.) The Facilities for Divine Service in Collegiate Schools Bill passed through Committee; as did also the Public and Refreshment Houses (Metropolis) Bill, and the Greek Loan Bill; the Government Annuities Bill and the Superannuation (Union Officers) Bill were read a third time and passed.

(Commons.) The adjourned debate on Mr. Disraeli's motion was resumed by Mr. Cobden, and, after another long debate, was again adjourned. The India Office Bill, the Drainage and Improvement of Lands (Ireland) Bill, the Divorce and Matrimonial Causes Act Amendment Bill, and the Local Government Act Amendment Bill, were read a third time and passed; the India Stocks Transfer Act Amendment Bill and the Joint Stock Companies (Voting Papers) Bill were passed through Committee; and the Pilotage Order Confirmation Bill was read a second time.

July 6. (Lords.) The Trespass (Ireland) Bill passed through Committee; the Punishment for Rape Bill was thrown out, on the motion for going into Committee, by 84 to 78; and the Municipal Corporations (Ireland) Bill and the Fisheries (Freshwater) Bill were withdrawn.

July 7. (Lords.) The Railway Construction Facilities Bill was read a second time.

(Commons.) The adjourned debate was resumed by Mr. Layard, and again adjourned, after a long discussion. The Indemnity Bill, the India Stock Transfer Acts Amendment Bill, the Judgment, &c., Law Amendment Bill, and the Street Music Bill were read a third time and passed;

the Courts of Justice Bill and the Poisoned Flesh Prohibition of Sale Bill were read a second time; the Pilotage Order Confirmation Bill was withdrawn; the Public Schools Bill and the Ecclesiastical Courts Bill passed through Committee.

July 8. (Lords.) The Earl of Malmesbury moved the resolution of which he had given notice, identical with that of Mr. Disraeli. On the division there appeared for the resolution 177, of whom 58 were proxies; against it 168, including 45 proxies.

(Commons.) Mr. B. Osborne opened the adjourned debate. At the end of the debate the House divided on the Amendment, Mr. Kinglake's, to which Lord Palmerston had assented, for which there voted 313, against it 295; a majority of 18 for the Government.

July 11. (Commons.) In Committee of Supply the vote for Public Education in Ireland was agreed to, as were other votes for educational purposes in the United Kingdom; the Inland Revenue (Stamp Duties) Bill and the Public Schools Bill were read a third time and passed; the Ionian Islands Acts of Parliament Repeal Bill, the Militia Pay Bill, and the Expiring Laws Continuance Bill, were read a second time; the Court of Chancery (Ireland) Bill was withdrawn; and other Bills were forwarded a stage.

July 12. (Lords.) The Street Music (Metropolis) Bill was read a second time; the Facilities for Divine Service in Collegiate Schools Bill, the Life Annuities and Life Assurance Bill, and the Lunacy (Scotland) Bill, were read a third time and passed; and several other Bills were forwarded a stage.

(Commons.) The Highway Acts Amendment Bill was considered in Committee.

July 13. (Commons.) Mr. Bouverie moved the second reading of the Uniformity Act Amendment Bill, which enabled Fellowships of Colleges in the Universities to be held without requiring a declaration of conformity to the liturgy of the Church of England. It was opposed by Mr. Walpole and others, and lost on a division of 157 to 101. The Scottish Episcopal Clergy Disabilities Removal Bill was read a second time; the Ecclesiastical Courts and Registries (Ireland) Bill was read a third time and passed; the Poor Law Guardians Election Bill, the Petty Offences Law Amendment Bill, the County Voters Registration Bill, and the Jersey Court Bill, were all withdrawn.

July 14. (Lords.) The royal assent was given by Commission to a number of Bills. The Earl of Shaftesbury moved that the amendment of the House of Commons on the Penal Servitude Act, which had reinserted the clause requiring the holder of a ticket-of-leave to report himself to the police once a month, should again be struck out, but the motion was negatived by 62 to 25. The Public and Refreshment Houses Bill was read a third time and passed; and the Factory Act Extension Bill passed through Committee.

(Commons.) A select Committee was appointed to revise the Standing Orders, with an instruction to consider the expediency of appointing referees for the decision of certain matters of fact, so as to lessen the expenses upon private Bills. The Gaols Bill and the Courts of Justice Money Bill were withdrawn. On the second reading of the New Zealand (Loan Guarantee) Bill, considerable opposition was made on the ground of the nature of the war now being carried on within the colony, but the second reading was ultimately carried by 92 to 55. The remaining Civil Service Estimates passed through Committee, and a number of Bills were forwarded a stage without discussion; and the Mortgage Debenture Bill was adjourned, after a division.

July 17. (Lords.) The Mutual Surrender of Criminals (Prussia) Bill, the Thames Embankment and Metropolis Improvement Bill, and the Militia Ballot Suspension Bill, were, with others, read a second time; the Street Music (Metropolis) Bill, the Inland Revenue (Stamp Duties) Bill, the Railway (Ireland) Acts Amendment Bill, and the Drainage and Improvement of Lands (Ireland) Bill, were read a third time and passed.

(Commons.) On the order for going into Committee on the New Zealand (Guarantee of Loan) Bill, Sir J. Trelawny opposed it, moving for a Select Committee as an amendment, which was rejected, after an explanation by Mr. Cardwell, by 79 to 32. The Westminster Bridge Traffic Bill, the Drainage and Improvement of Lands (Ireland) Bill, and others, passed through Committee; the West India Encumbered Estates Act Amendment Bill, the Metropolis Management Act Amendment Bill, the Public Works (Manufacturing Districts) Bill, and others, were read a first time; the Scottish Episcopal Difficulties Removal Bill, and the Salmon Fisheries (Scotland) Bill, were considered in Committee; the Charitable Trusts Fees Bill was discharged on the second reading; the Registration of Deeds (Ireland) Bill, the Poisoned Flesh Prohibition Bill, and the Justices' Proceedings Confirmation (Sussex) Bill, were read a third time and passed.

July 19. (Commons.) Mr. Villiers brought in a bill to make provision for distributing the charge of relief of certain classes of poor persons over the metropolis. The Criminal Justice Extension Act, and the Public Works (Manufacturing Districts) Bill, passed through Committee; and several other Bills were advanced a stage.

July 20. (Commons.) The Appeal in Criminal Cases Act Amendment Bill was abandoned, as was also the Bill for affording facilities for Divine Service in Collegiate Schools. Some other Bills were forwarded a stage without discussion.

July 21. (Lords.) Earl Fortescue moved the second reading of the Weights and Measures Bill, which legalises the metric system of calculation, for those who prefer it to the imperial or local standards. It was opposed by the Marquis of Salisbury and others, as being confusing and useless unless rendered compulsory, but was carried on a division by 31 against 18. The Mutual Surrender of Criminals (Prussia) Bill, and the Thames Embankment and Metropolis Improvement Loan Bill, with others, were read a third time and passed. Other Bills were forwarded a stage.

(Commons.) Sir C. Wood made his annual statement of the finances of India. In three years 8,313,000*l.* of debt had been paid off; there was a balance in the Treasury of 10,000,000*l.*; there was a surplus on the year's income over the expenditure of 1,827,346*l.*; and there had been vast improvements in forming railways, opening navigation on rivers, providing irrigation, and otherwise promoting commercial industry, and one of the effects had been a largely increased supply of cotton. The Appropriation Bill was introduced and read a first time. On the motion for the third reading of the New Zealand (Guarantee of Loan) Bill, Mr. Hennessy moved an adjournment for three months, which was negatived by 75 to 32, and the Bill was passed.

July 22. (Lords.) The Poisoned Flesh Prohibition Bill was read a third time and passed after two divisions, and other Bills were forwarded a stage.

(Commons.) The Appropriation Bill was read a third time and passed.

July 23. (LORDS.) The House met on this day (Saturday) for the purpose of forwarding a number of Bills preparatory to the prorogation.

July 25. (LORDS.) The New Zealand Loan Guarantee Bill was read a second time, after considerable discussion.

(COMMONS.) The Bill for providing for the expenses of the fortifications at Portsmouth was read a third time and passed. The Indian Medical Service Bill was thrown out, on its third reading, by 46 to 44. Mr. Villiers' Bill for providing more effectual relief for the casual poor of the metropolis passed through Committee, after Mr. Villiers had consented to limit its operation to April 1, 1865. Lord Palmerston moved the rescinding of the resolution of April 12, by which the conduct of Mr. Lowe, in reference to the reports of the school inspectors, had been censured, which, after some discussion, was agreed to.

July 26. (COMMONS.) The Poor Relief (Metropolis) Bill and the Salmon Fisheries (Scotland) Acts Amendment Bill were read a second time and passed; and the amendments of the Lords on several Bills were agreed to.

July 27. (LORDS.) Lord Wodehouse moved the second reading of the Poor Relief (Metropolis) Bill, explaining that its object was to defray the charge for relieving the casual poor out of a general rate on the metropolis, instead of from a union rate, which was agreed to, after some objections to the machinery had been revised. Several other Bills, public and private, were read a third time and passed.

(COMMONS.) After a long discussion, the resolutions moved by Colonel Wilson Patten for altering the standing orders of the House in the proceedings for Private Bills were agreed to, and the preliminary steps for ascertaining the objects and propriety of such Bills are to be referred to a Committee of four referees, comprised of engineers, with one member of Parliament; the Committee to report to the House on the evidence they have received. The Naval Discipline Bill was read a third time and passed. The Mutual Surrender of Criminals (Prussia) Bill was withdrawn.

July 28. (LORDS.) The Poor Relief Bill went through Committee, was read a third time and passed.

(COMMONS.) The Partnerships Law Amendment Bill was withdrawn.

July 29. (LORDS.) The royal assent was given by Commission to a large number of Public and Private Bills, and the House of Commons having been summoned, the Royal Message was read by the Lord Chancellor, and the Parliament was prorogued. The message, among other subjects, stated that "her Majesty greatly regrets that the endeavours which she made in concert with the Emperor of the French, the Emperor of Russia, and the King of Sweden, to bring about a reconciliation between the German Powers and the King of Denmark were not successful, and that the hostilities which had been suspended during the negotiations were again resumed. Her Majesty trusts, however, that the negotiations which have been opened between the belligerents may restore peace to the north of Europe;" that "her Majesty deeply laments that the civil war in North America has not been brought to a close. Her Majesty will continue to observe a strict neutrality between the belligerents, and would rejoice at a friendly reconciliation between the contending parties," concluding by thanking the Commons for their liberal supplies, and noticing the useful Acts passed during the session.

XIV.—PRIVATE BILLS OF THE PARLIAMENT, 1864.

[27-28 Victoriæ.]

I. Numerical Abstract of the Private Bills of the Session of 1864:

New Bills introduced into the House	457
Bills read a first time	448
—— read a second time	433
—— read a third time	356
—— passed	347

Of those passed, three were subsequently made Public Acts, viz., tho Thames Conservancy, the Portsmouth Dockyard, and Harwich Harbour Amendment Acts. The titles of the others are given in the following pages.

II. Comparative Classification of Bills for Ten Years, as given in the House of Commons List:—

Bills Passed.	1854-5	1856	1857	1858	1859	1860	1861	1862	1863	1864
Agriculture . .	3	4	2	2	4	4	6	4	4	2
Companies . .	10	4	4	7	12	8	9	5	7	8
Improvements in Towns, &c. .	74	38	43	44	25	44	49	43	47	66
Internal Communication. . .	103	87	96	85	117	136	173	166	170	225
Navigation, &c. .	15	7	21	14	18	12	12	10	15	29
Private Regulation, &c. . .	24	21	15	15	10	17	19	9	8	17
Totals . .	229	161	181	167	186	221	268	237	251	347

The average number of Private Bills passed from 1855 to 1859 inclusive was 185; the average number from 1860 to 1864 inclusive has been 264; the session of 1864 giving the highest number for the five years.

III. Abstract of Petitions and Private Bills in the Session of 1864:—

	Bills Introduced.	Passed.	Not Passed.
I. AGRICULTURE:—			
1. Inclosures, none.			
2. Drainage	2	2	—
II. COMPANIES	10	8	2
III. IMPROVEMENTS IN TOWNS AND DISTRICTS:—			
1. General Improvements	8	6	2
2. Water	27	23	4
3. Gas	24	22	2
4. Markets, Bridges, &c.	14	12	2
5. Municipal Regulation, &c.	8	3	5
IV. INTERNAL COMMUNICATION:—			
1. Roads	21	19	2
2. Railways	292	206	86
V. NAVIGATION:—			
1. Rivers	4	2	2
2. Harbours, Piers, &c.	16	15	1
3. Docks, &c.	14	12	2
4. Miscellaneous	2	2	—
VI. PRIVATE REGULATION	15	15	—
Totals	457	347	110

I. AGRICULTURE:—

Drainage:—160. To make further provision for the maintenance and repair of the Wallasey Embankment; and for other purposes.

187. For the Construction of an Embankment, Docks, and other Works, and the reclamation and acquisition of lands near Fleetwood, in Lancashire; and for other purposes.

II. COMPANIES:—

64. For incorporating the Salop Fire Office; and for other purposes relating thereto.

66. To confer upon the Westminster Palace Hotel Company, limited, further powers with respect to arrangements between them and her Majesty's Principal Secretary of State in Council of India; and for other purposes connected with their undertaking.

69. For making further provision with respect to the investment of moneys of the Rock Life Assurance Company; and for other purposes.

116. To confirm an agreement for the amalgamation of the Globe Insurance Company with the Liverpool and London Fire and Life Insurance Company, and to alter the name of the last-mentioned company; and for other purposes.

125. To amend the Railway Passengers Assurance Company's Act, 1852, and to confer additional powers upon the said company.

130. For enabling the Pneumatic Despatch Company, limited, to purchase lands and extend their works.

145. For making further provision with respect to the Liverpool Exchange Buildings and the Exchange Area, and for authorizing the Liverpool Exchange Company to raise further moneys; and for other purposes.

150. To authorize the Globe Telegraph Company, limited, to construct and maintain telegraphs; to acquire and work letters patent relating to electro-magnetic telegraphs and apparatus; and for other purposes.

III. IMPROVEMENTS IN TOWNS AND DISTRICTS:—

General Improvements:—61. To authorize the Corporation of the City of London to form a viaduct or raised way across the Holborn Valley, and new streets and improvements connected therewith; and for other purposes.

72. To authorize the construction of new, and widening and altering of existing streets, and other improvements in the borough of Liverpool; and for other purposes.

73. For making further provision with respect to the sanitary condition of the borough of Liverpool; and for other purposes.

135. To enable the Metropolitan Board of Works to purchase additional lands, and to make further improvements in the parish of Saint Mary, Lambeth, in Surrey, for the purposes of the Thames Embankment Act, 1863.

198. For giving effect to an award relating to the borough of Belfast, and for confirming things done with a view to the execution of the Acts for the Improvement of the Borough; and for other purposes.

305. To amend the Dublin Improvement Act, 1849, and the Dublin Improvement Act Amendment Act, 1861, and to confer additional powers upon the Corporation of Dublin.

Water:—5. To amend the existing Acts of the Folkestone Waterworks Company, and to confer powers upon the Company.

6. For better supplying Matlock Bath, in Derbyshire, with water.

8. To empower the Southwark and Vauxhall Water Company to raise further money; and for other purposes.

25. To enable the Haslingden and Rawtenstall Waterworks Company to raise a further sum of money, and to construct works; and for other purposes.

36. To incorporate the Pontypridd Waterworks Company, limited, and to make further provision for the supply of water to the town of Pontypridd and the neighbourhood thereof.

39. For authorizing the Governor and Company of Chelsea Waterworks to raise further moneys; and for other purposes.

42. For better supplying the town of Drogheda and neighbourhood thereof with water; and for other purposes.

47. To enable the Corporations of Ashton-under-Lyne and Stalybridge to provide a further supply of water for those boroughs and the neighbourhood thereof respectively; and for other purposes.

63. To authorize the Stirling Waterworks Commissioners to make and maintain additional reservoirs and other works, and to extend the supply of water; and for other purposes.

85. For better supplying the borough of Wrexham and neighbourhood thereof with water; and for other purposes.

89. To enable the South Staffordshire Waterworks Company to construct additional works, and obtain a further supply of water, and to extend their supply of water into other districts; and for other purposes.

107. To incorporate the proprietors of the North Cheshire Waterworks Company, limited, and to confer on them further powers for the supply of water; and for other purposes.

108. For enabling the Local Board of Health for the borough of Lancaster to construct and maintain an improved system of waterworks for the supply of the borough, and of adjacent places, with water; to authorize certain street improvements in Lancaster; and to give powers of sale or mortgage over Lancaster Marsh; and for other purposes.

110. To enable the Stockton and Middlesbrough Waterworks Company to extend their limits for the supply of water; to construct additional works; to raise additional capital; to alter and amend their existing Act; and for other purposes.

121. For better supplying with water the town of Whitehaven and its neighbourhood; and for other purposes.

146. For the amalgamation of the North Kent Waterworks Company, and their undertaking and property, with the Kent Waterworks Company, and their undertaking and property; and for the dissolution of the North Kent Waterworks Company; and for authorizing the Kent Waterworks Company to raise further moneys; and for other purposes.

153. For the purification of the water of Leith, by interception and conveyance into the sea of the sewage falling into the same, and otherwise; and for other purposes.

180. For better supplying with water Wisbech, and certain parishes and places in Cambridgeshire and Norfolk; and for other purposes.

201. To enable the mayor, aldermen, and burgesses of the borough of Bolton to construct additional Waterworks; to acquire the Turton and Entwisle Reservoir; to provide a public Park and Town Hall; and for other purposes.

209. To enable the Whitby Waterworks Company, limited, to supply with water the town of Whitby, and the neighbourhood, in the parish of Whitby, Yorkshire, N.R.; and for other purposes.

249. For better supplying with water Exmouth, Budleigh Salterton, and the adjoining districts within the parishes of Littleham and Exmouth, Withycombe Raleigh, and East Budleigh, in Devonshire.

277. For extending the limits within which the Stockport District Waterworks Company may supply water, and for authorizing them to raise further moneys; and for other purposes.

324. To make provision for the assessment of damages claimed against the Sheffield Waterworks Company in consequence of an inundation caused by the giving way of the embankment of one of the reservoirs of the Company; and to enable the Company to raise further money, and to increase their water rents; and for other purposes.

Gas:—9. For granting certain powers to the Chertsey Gas Consumers Company, limited.

10. For granting further powers to the Kingston-upon-Thames Gas Company.

11. To incorporate the Tunbridge Wells Gas Company; to extend their limits for supplying gas; to repeal the deeds of settlement under which the company is established; to authorize the raising of further capital; and for other purposes.

14. To authorize the Dover Gaslight Company to purchase certain land; to raise more money; and for other purposes.

17. To enable the Ipswich Gaslight Company to increase their capital.

23. For incorporating and granting other powers to the Salisbury Gaslight and Coke Company.

27. For enabling the Huntingdon and Godmanchester Gas and Coke Company, limited, to acquire additional land.

30. For lighting with gas the townships of Clayton, Allerton, and Thornton, and certain neighbouring townships or parts thereof, in Yorkshire, W.R.

38. To re-incorporate the Bedford Gaslight Company, and make further provision for lighting the borough of Bedford, and certain neighbouring parishes, with gas.

40. To incorporate the Stroud Gaslight and Coke Company, and make further provision for lighting the borough of Stroud and parish of Eastington with gas; and for other purposes.

45. To incorporate the Deal and Walmer Gaslight and Coke Company, limited, and to make further provision for lighting the town of Deal and parish of Walmer, and certain neighbouring places, with gas.

56. For incorporating the Hertford Gaslight Company, for extending their limits for supplying gas, for the increase and regulation of their capital; and for other purposes.

92. For incorporating the Ulverston Gaslight and Coke Company, and for conferring upon them further powers for the supply of gas to the township of Ulverston, and certain neighbouring townships and parishes, in Lancashire.

109. To grant further powers to the Nottingham Gaslight and Coke Company.

137. For extending the limits of the Bolton Gas Company's Act, 1854; and for other purposes.

148. To re-incorporate the Newcastle-upon-Tyne and Gateshead Union Gaslight Company, and to make better provision for lighting with gas the boroughs of Newcastle-upon-Tyne and Gateshead, and several neighbouring parishes and townships in Northumberland and Durham; and for other purposes.

159. To amend the Act relating to the Phœnix Gas Company, and to

authorize such company to raise more capital, and purchase a certain piece of land; and for other purposes.

162. To enable the Independent Gaslight and Coke Company to raise additional capital; to define their limits for supplying gas; to repeal, amend, and extend the Act relating to the Company; and for other purposes.

169. For supplying and lighting with gas, and supplying with water, the town of Barrow-in-Furness, and the townships of Above Town, Ireleth, Lindal, and Martin Dalton, Dalton Proper, Yarlside, Hawcoat, and Saint George's Barrow, in the parish of Dalton-in-Furness, in Lancashire; and for other purposes.

239. To enlarge the powers of the Birmingham and Staffordshire Gaslight Company; and for other purposes.

259. For better lighting with gas parts of the parishes of Walthamstow and Leyton, in Essex, and for conferring further powers in relation thereto on the County and General Gas Consumers Company, limited; and for other purposes.

261. For better lighting with gas parts of the parishes of Northfleet, Stone, and Swanscombe, in Kent, and for conferring further powers in relation thereto on the County and General Gas Consumers Company, limited; and for other purposes.

Markets, Bridges, Cemeteries, &c.:—4. To enable the Metropolitan Board of Works to provide a public Park for the south-eastern districts of the Metropolis, to be called Southwark Park.

15. To amend the Metropolitan Meat and Poultry Market Act, 1860, and other Acts, with respect to the borrowing of money.

21. To amend the Salisbury Railway and Market House Act, 1856; and to enable the Company thereby incorporated to increase their capital; and for other purposes.

44. For the making and maintaining a bridge over the river Thames or Isis, near the Ferry, at Clifton Hampden, in Oxfordshire, with approaches thereto; and for other purposes.

57. To amend the London Necropolis and National Mausoleum Amendment Act, 1855; and for other purposes.

68. To incorporate the Scarborough Valley Bridge Company; to authorize the construction of a bridge over the Ramsdale Valley, in Scarborough, with approaches; and for other purposes.

103. To incorporate a Company for holding Markets and Fairs in the town and parish of Wellington, in Shropshire; and for other purposes.

119. For erecting and maintaining bridges over the river Severn, near Shrewsbury, and for making convenient approaches thereto.

141. For making and maintaining a Market in the parish of St. George the Martyr, Southwark.

229. To regulate the use, by the Lynn and Sutton Bridge Railway Company, of the Cross Keys Bridge, over the river Nene.

235. To incorporate a Company for making a new bridge from Chelsea to Battersea, with approaches thereto.

238. For incorporating the Wandsworth Bridge Company, and for authorizing them to make and maintain the Wandsworth Bridge, and to make roads leading thereto; and for other purposes.

Municipal Regulation:—117. To confer further powers on the Wallasey Local Board; and for other purposes.

191. For the extension of the Municipal Limits of the city of Londonderry, and for the increase of the jurisdiction of the Court of Conscience

there; and for the further improvement of the city; and for raising further moneys; and for other purposes.

268. For the Commutation of Tithes in certain parishes in the city of London; and for other purposes.

IV. INTERNAL COMMUNICATION:—

Roads:—24. For repairing and maintaining the Sudden Bridge and Bury Roads in Lancashire; and for other purposes.

37. To extend the term and amend the provisions of the Act relating to the Thornset turnpike roads.

43. To repeal an Act for repairing the road from the present turnpike road in the parish of Hursley, in Hampshire, to Andover, and from thence to Newbury, and from Newbury to Chilton Pond, in Berkshire, and for granting more effectual powers in lieu thereof.

50. For continuing the term of and otherwise amending the Act relating to the Pucklechurch or Lower District of Roads, in Gloucestershire and Wiltshire.

52. To continue the Hedon and Patrington turnpike trust in the East Riding of Yorkshire; and for other purposes.

53. To repeal the Acts relating to the Newport (Monmouthshire) turnpike trust and the Caerleon turnpike trust, and to amalgamate those trusts; and for other purposes.

54. For the Portmadoc and Beaver Pool Bridge turnpike roads in Merionethshire and Carnarvonshire.

59. To extend the term and amend the provisions of the Act relating to the turnpike road from Brough Ferry to South Newbald Holmes, and from Brough to Welton, in the East Riding of Yorkshire.

70. For more effectually repairing certain roads from Scaddow Gate, in the parish of Ticknall, to the Burton-upon-Trent and Ashby road, and other roads connected therewith, and for making new branches of road, in Derbyshire and Leicestershire.

74. For continuing the term of the turnpike road from Chesterfield to Hernstone Lane Head, with its branches, all in Derbyshire; and for other purposes.

102. For repairing the road from North Shields, in Northumberland, to Newcastle-upon-Tyne; and for other purposes.

104. To grant a further term in the road from or near Mytholm Royd Bridge, in the West Riding of Yorkshire, communicating with the road at or near to the sixth milestone from Rochdale, in Lancashire, and further powers for the management thereof; to alter the rights of the existing creditors of the trust, and to repeal the existing Act; and for other purposes.

133. For maintaining the public roads and bridges in the Stewartry of Kirkcudbright.

138. For the amendment of the Bolton and St. Helen's Turnpike Road Act, 1860.

139. To make provision for the maintenance and management of public roads in Zetland.

179. For the Stockport and Ashton turnpike roads in Cheshire and Lancashire, and Yorkshire.

193. For more effectually maintaining, keeping in repair, and improving the roads, highways, and bridges within Peeblesshire; and for other purposes.

206. For making and maintaining highways, bridges, quays, and ferries; and for regulating ferries in Argyllshire.

215. For authorizing the extension and maintenance of tramways in the parish of Erith, in Kent; and for other purposes.

Railroads:—1. To confer certain powers on the Llanelly Railway and Dock Company with respect to their capital.

3. For granting further powers to the Newry and Greenore Railway Company.

7. For altering the Marple New Mills and Hayfield Junction Railway; extending the time for completion of portions thereof; and for other purposes.

12. To alter and regulate the capital and borrowing powers of the Dublin and Belfast Junction Railway Company; and for other purposes.

13. To enable the Carmarthen and Cardigan Railway Company to make a branch railway near Kidwelly, in Carmarthenshire.

16. For granting further powers to the Calne Railway Company.

18. To enable the Swansea Vale Railway Company to raise a further sum of money.

19. To enable the South Yorkshire Railway and River Dun Company to extend their railway to the Midland Railway at Barnsley.

20. To enable the North-Eastern Railway Company to construct a branch railway and works between Church Fenton and Micklefield, in Yorkshire; to raise additional capital; and for other purposes.

22. To extend the time limited for the purchase of certain lands by Acts relating to the Llanidloes and Newtown Railway Company; and to authorize that Company to raise and apply money to the general purposes of their undertaking; and for other purposes.

26. To enable the Great North of Scotland Railway Company to contribute further moneys to certain undertakings.

28. To enable the Dublin and Meath Railway Company to raise a further sum of money; and for other purposes.

29. To authorize the Edgware, Highgate, and London Railway Company to extend their railway to Alexandra Park; and for other purposes.

32. To confer powers on the Lancashire and Yorkshire Railway Company for the execution of new works and the acquisition of additional lands, and otherwise in relation to their undertaking.

34. To enable the Anglesey Central Railway Company to make a deviation of a portion of their authorized line.

35. To enable the London, Brighton, and South Coast Railway Company to provide station accommodation at Kemp Town, and to construct a new railway in connection therewith; and for other purposes.

49. To enable the North-Eastern Railway Company to construct railways between their main line near York and the Great Northern Railway near Doncaster; to raise additional capital; and for other purposes.

55. To give effect to the provisions of the West Yorkshire Railway Act, 1863, with reference to the admission of the North-Eastern and Lancashire and Yorkshire Railway Companies to become joint owners with the West Yorkshire Railway Company of the Methley Railway; and for other purposes.

58. For authorizing the Cowes and Newport Railway Company to make and maintain extension and branch railways in the Isle of Wight, and to raise funds for the purpose; and for other purposes.

60. To enable the Caledonian Railway Company to make a branch railway from their Rutherglen and Coatbridge branch to Tennochside, in Lanarkshire; and for other purposes.

62. To authorize arrangements between the Bedford and Cambridge and London and North-Western Railway Companies; and for other purposes.

65. To enable the Trent, Ancholme, and Grimsby Railway Company to raise further money.

67. To enable the North-Eastern Railway Company to make branch railways and other works in Durham and Cumberland; to raise additional capital; and for other purposes.

71. To authorize arrangements of the capital of the North-Western Railway Company.

75. To incorporate a company for making the Chichester and Midhurst Railway.

76. For making a railway from the Northampton and Banbury Junction Railway to the Great Western Railway, at Stratford-on-Avon.

77. To authorize the transfer of the undertaking of the South Yorkshire Railway and River Dun Company to the Manchester, Sheffield, and Lincolnshire Railway Company.

78. To grant to the Manchester, Sheffield, and Lincolnshire Railway Company certain powers with respect to the Stockport and Woodley Junction, Cheshire Midland, Stockport, Timperley, and Altrincham Junction, and West Cheshire Railways, and to empower the Company to enlarge its canal premises in Manchester; and for other purposes.

79. To enable the Tendring Hundred Railway Company to alter their line to Walton in Essex; and for other purposes.

80. For making a railway from the Lancashire and Yorkshire Railway at Chatburn to the North-Western Railway at Settle, to be called the Ribblesdale Railway; and for other purposes.

81. To amalgamate the Alva Railway Company with the Edinburgh and Glasgow Railway Company.

82. For vesting the Alyth Railway, by way of lease, in the Scottish North-Eastern Railway Company; to enable the Alyth Railway Company to raise additional capital; and for other purposes.

83. To enable the Perth, Almond Valley, and Methven Railway Company to raise additional capital, and to sell their undertaking to the Scottish North-Eastern Railway Company, and to enable that Company to purchase the same; and for other purposes.

84. To authorize the North British Railway Company to make a railway from the Carlisle and Silloth Bay Railway, in the parish of Holme Cultram, to the Maryport and Carlisle Railway, in the parish of Wigton, all in Cumberland; and for other purposes.

86. To authorize the construction of a railway from Ely, through Haddenham, to Sutton in Cambridgeshire.

87. For authorizing the London and South-Western Railway Company to make and maintain a railway from the London and South-Western Railway, at Chertsey, to the Staines and Wokingham Railway, at Egham; and for other purposes.

88. To empower the Salisbury and Yeovil Railway Company to acquire additional lands, and to raise money; and for other purposes.

90. For making a railway from the Lynn and Hunstanton Railway at Heacham to the Great Eastern Railway at Wells, to be called the West Norfolk Junction Railway, all in Norfolk.

91. To enable the West Riding and Grimsby Railway Company to make a station at Wakefield; and for other purposes.

93. To empower the Kent Coast Railway Company to acquire additional lands, and to raise more money, and to make further provision for the lease of their undertaking to the London, Chatham, and Dover Railway Company; and for other purposes.

94. To empower the Crystal Palace and South London Junction Railway Company to make a railway to connect their authorized railway with the Greenwich line of the London, Chatham, and Dover Railway Company; and for other purposes.

95. To authorize the Great Eastern Railway Company to make a railway from their Loughton line to near Highbeech Green.

96. To authorize the London, Chatham, and Dover Railway Company to run steam vessels between Ramsgate and certain foreign ports, and to provide accommodation for steamboat traffic at Ramsgate and Dover; and for incidental purposes.

97. For authorizing the Oswestry, Ellesmere, and Whitchurch Railway Company to raise a further sum of money.

98. For authorizing the South-Eastern Railway Company to make and maintain an extension of their railway to Westerham, and to raise further moneys; and for other purposes.

99. For authorizing the South-Eastern Railway Company to make and maintain extensions of their railway to Cranbrook, Hythe, and Sandgate respectively, and to raise further moneys; and for other purposes.

100. To sanction an agreement between the North British Railway Company and the Scottish Central Railway Company with respect to the general station at Perth; and for other purposes.

101. To enable the Witney Railway Company to raise a further sum of money; and for other purposes.

106. To enable the Belfast and Northern Counties Railway Company to make a railway or tramway at Portrush; and to purchase additional lands; and to extend the period at present limited for the sale of certain superfluous lands of the said company; and for other purposes.

111. To authorize the Scottish North-Eastern Railway Company to construct a railway to connect their railway with the Great North of Scotland Railway at Aberdeen; to confer powers and obligations on them, and on the Great North of Scotland Railway Company; and for other purposes.

113. For authorizing the North and South-Western Junction Railway Company to acquire additional lands for the purposes of their undertaking; and to raise further moneys; and for other purposes.

114. For authorizing the Okehampton Railway Company to make certain deviations from their authorized lines; and for other purposes.

115. To enable the Scottish North-Eastern Railway Company to make a new railway from Newtyle to the Meigle station on the Scottish North-Eastern Railway; and for other purposes.

118. For vesting, by way of lease in perpetuity, the Newcastle-under-Lyme Canal, and the Canal Extension Railway belonging thereto, in the North Staffordshire Railway Company; and for other purposes.

122. To authorize the making of a railway from the Great Eastern Railway to North Walsham, in Norfolk; and for other purposes.

123. To enable the London, Brighton, and South Coast Railway Company to make new railways from the Ouse viaduct on their main line to Uckfield and Hailsham; and for other purposes.

124. To enable the Great Northern Railway Company to use certain portions of the Great Eastern Railway, and to make arrangements with the Great Eastern Railway Company.

126. For authorizing a deviation and extensions of the Dublin, Wicklow, and Wexford Railway; and for other purposes.

128. To enable the West Shropshire Mineral Railway Company to make certain new lines of railway, and to use a portion of the Oswestry and Newtown Railway and the Llanymynech station of that railway; and for other purposes.

129. To authorize the consolidation of the separate capitals of the Sevenoaks, Maidstone, and Tunbridge Railway Company; to extend the existing arrangements between them and the London, Chatham, and

Dover Railway Company; to authorize the sale or lease of their undertaking to that Company; and for other purposes.

132. To enable the Glasgow and South-Western and the Caledonian Railway Companies to make certain branches and other works, and to acquire additional lands in connection with their joint line of railway between Glasgow and Paisley; and for other purposes.

134. To extend the time for completing the Henley-in-Arden Railway, and to raise additional capital.

136. To extend the time for the purchase of land and completing the extension line to the river Avon of the Bristol and South Wales Union Railway; to authorize the purchase of; and for other purposes.

142. To enable the Mid-Wales Railway Company to make a railway to join the Central Wales Extension Railway, in the parish of Llanelwedd, in Radnorshire; and to confer upon the said company further powers with respect to roads crossed by their railway, and with respect to the purchase of lands; and to enable the said company to let their railway on lease; and to raise further sums; and for other purposes.

143. For authorizing the construction of a railway, to be called the Halifax and Ovenden Junction Railway; and for other purposes.

144. To authorize the Mistley, Thorpe, and Walton Railway Company to make a railway to connect their line with an authorized extension of the Tendring Hundred Railway Company; and for other purposes.

147. For authorizing the Aberystwith and Welsh Coast Railway Company to acquire additional lands, and to raise further moneys; and for the Oswestry and Newtown Railway Company to contribute further moneys towards the funds of that Company; and for other purposes.

149. For incorporating a Company for making a railway to be called the Garstang and Knot End Railway; and for other purposes.

151. To authorize the Severn Valley Railway Company to raise further sums of money, and to make certain works in connection with their railway; and for other purposes.

152. To enable the Nantwich and Market Drayton Railway Company to increase their capital; and for other purposes.

154. To authorize the London, Brighton, and South Coast Railway Company to run steam vessels between Littlehampton, places on the coast of France, and in the Channel Islands.

156. To change the name of the West Shropshire Mineral Railway Company, and to enable them to make branch railways and a deviation, and to alter the line and levels of their railway; and to confer upon the said Company further powers for making, crossing, and altering public roads, and for the purchase of additional lands; and for other purposes.

157. To amend the Acts relating to the East Indian Railway Company, and to authorize the Company to raise further capital; and for other purposes connected with their undertaking.

158. For making a railway from the Caledonian Railway, near Kirtlebridge station, to the Maryport and Carlisle Railway, near Brayton station, with branch railways in connection therewith; and for other purposes.

161. To authorize the Oswestry and Newtown Railway Company to subscribe to the Bishop's Castle Railway; and for other purposes.

163. For making a railway from the Cornwall Railway, near Burngullow, to the Saint Dennis branch of the Newquay Railway, near Hendra, in Cornwall; and for other purposes.

164. For the construction by the Midland Railway Company of new railways from their Bristol and Birmingham line to the city of Bath and to Thornbury; and for other purposes.

165. For enabling the Leeds, Bradford, and Halifax Junction Railway

Company to construct new works and acquire additional lands in the West Riding of Yorkshire; and for other purposes.

166. For authorising the London and South-Western Railway Company to make and maintain a line of railway from Kensington to Richmond, and junction lines communicating with the Hammersmith and City Railway and the North and South Western Junction Railway respectively; and to raise further moneys; and for authorizing arrangements with divers railway companies; and for other purposes.

170. For making a railway from the Cornwall Railway to Bodmin.

171. To authorise the Worcester, Bromyard, and Leominster Railway Company to purchase additional lands; to extend the time for the purchase of lands, and for completing the railway; and for other purposes.

172. To enable the London, Brighton, and South Coast Railway Company to provide improved railway communication between Tunbridge Wells and Eastbourne; and for other purposes.

173. To enable the Scottish North-Eastern Railway Company to construct a new line between Dundee and Forfar; to levy tolls; to raise additional capital; and for other purposes.

174. For authorizing an alteration of the Southampton and Netley Railway, and the amalgamation of the Southampton and Netley Railway with the London and South-Western Railway; and for other purposes.

175. To incorporate a Company for the making of railways in Carmarthenshire and Cardiganshire, to be called the Swansea and Aberystwith Junction Railway.

176. To enable the Wellington and Drayton Railway Company to divert a portion of their authorized railway, and to transfer their undertaking to the Great Western Railway Company.

177. For enabling the Hayling Railways Company to make and maintain railways in extension of their authorized railways; and to make and maintain docks; and to raise moneys for the purpose; and to make arrangements with other companies; and for other purposes.

181. For authorizing the making of railways from the railway of the Somerset and Dorset Railway Company at Wells to the railway of the Bristol and Exeter Railway Company at Yatton; and arrangements between those Companies in relation thereto; and for other purposes.

182. For making railways from the Great Eastern Railway at East Dereham to Norwich, to be called the Wensum Valley Railway; and for other purposes.

183. To enable the Pembroke and Tenby Railway Company to construct new lines of railway; and for other purposes.

184. For the sale to the Bristol and Exeter Railway Company of the undertaking of the Company of Proprietors of the Grand Western Canal, and for the abandonment of a portion of the canal; and for other purposes.

185. To enable the Newry and Armagh Railway Company to raise further capital; and for other purposes.

186. To authorize the construction of a railway from Carnarvon to Llanberis, in Carnarvonshire.

188. For making a railway from the Merthyr, Tredegar, and Abergavenny Railway to Crickhowell; and for other purposes.

189. For making a railway from Crieff to the Perth, Almond Valley, and Methven Railway, near Methven; and for other purposes.

190. To authorize the construction of a railway in Middlesex, to be called the Midland and South-Western Junction Railway.

192. For authorizing the Charing Cross Railway Company to acquire additional lands at or near to their Cannon Street station, in the city of London, and to raise further moneys; and for other purposes.

194. For affording increased facilities for the transmission of traffic between the railways of the London and North-Western Railway Company and railways in Ireland; and for other purposes.

195. To authorize the London, Chatham, and Dover Railway Company to construct additional works and acquire additional lands; to alter the works and powers (connected with or affecting their undertaking) of other companies, bodies, and persons; and to amend the Acts relating to the above-named company, to Dover and to Margate; and for other purposes.

196. To authorize the Shrewsbury and Welchpool Railway Company to transfer or lease their undertaking to the London and North-Western Railway Company, or to the London and North-Western and Great Western Railway Companies.

197. For making a railway from Helston to Penryn, in Cornwall; and for other purposes.

199. To enable the Kington and Eardisley Railway Company to extend their authorized line of railway to Presteign, and to use a portion of the Leominster and Kington Railway, and make agreements with other companies; and for other purposes.

200. For making a railway from the Great Western Railway, near Harbury, to the London and North-Western Railway, near Birdingbury, in Warwickshire.

202. To enable the Great Northern Railway Company to extend their railway to the town of Barnet; to improve their station at King's Cross; and for other purposes.

204. For incorporating a Company, and for making and maintaining the Macclesfield, Bollington, and Marple Railway; and for other purposes.

205. To authorize the construction of a railway from the Watford and Rickmansworth Railway at Watford to the Edgware, Highgate, and London Railway, at Edgware.

207. For making a railway from the Staines, Wokingham, and Woking Railway to Cambridge Town, in Surrey; and for other purposes.

210. To extend the Bourton-on-the-Water Railway towards Cheltenham; to amend the Act relating to the Bourton-on-the-Water Railway Company; and for other purposes.

212. To form into a separate undertaking part of the City lines of the London, Chatham, and Dover Railway Company, and to provide for a contribution thereto by the Great Northern Railway Company, and to consolidate some of the stocks and shares of the first-named Company; and for other purposes.

214. To improve and extend the Dundee and Newtyle Railway; and for other purposes.

216. To authorize the construction of a railway and branch railway, to be called the Waterford and Wexford Railway; and of a harbour in Greenore Bay; and for other purposes.

217. To enable the Aylesbury and Buckingham Railway Company to raise a further sum of money; and for other purposes.

218. To extend the powers of the Llanelly Railway and Dock Company.

219. To authorize the London and Blackwall Railway Company to enlarge certain of their stations and works; and for other purposes.

220. To authorize the Stamford and Essendine Railway Company to make a railway from their railway to join the Northampton and Peterborough branch of the London and North-Western Railway; and for other purposes.

221. For authorizing the Tottenham and Hampstead Junction Railway Company to make a railway to join the Midland Railway; and for other purposes.

222. For making a Railway from Christian Malford, in Wiltshire, to Nailsworth, in Gloucestershire; and for other purposes.

223. For authorizing the Somerset and Dorset Railway Company to acquire additional lands for the purposes of their undertaking; and to raise further moneys; and for other purposes.

224. To incorporate a Company for making the Carmarthenshire Railway; and to confer other powers with reference thereto.

225. To authorize the Corris, Machynlleth, and River Dovey Tramroad Company to make a new railway; to abandon part of their existing undertaking; to amend their Act; and for other purposes.

226. For conferring additional powers on the London and North-Western Railway Company for the construction of works, and otherwise in relation to their own undertaking and the undertakings of other companies; for authorizing the abandonment of certain railways; and for other purposes.

227. For the amalgamation of divers railway companies with the London and South-Western Railway Company; for authorizing that company to make and maintain additional lines of railway, and to raise further moneys; and for other purposes.

228. To enable the Londonderry and Lough Swilly Railway Company to extend their railway towards the city of Londonderry; to raise additional capital; and for other purposes.

230. For enabling the Midland Railway Company to construct a railway from Chesterfield to Sheffield; and for other purposes.

231. For enabling the Midland Railway Company to construct a branch railway in the parish of St. Pancras; for authorizing arrangements with the Metropolitan Railway Company; and for other purposes.

232. For making a railway from the Potteries line of the North Staffordshire Railway to near Tunstall, in the parish of Wolstanton, in Staffordshire; and for other purposes.

233. To authorize the construction of a railway from Hartley and Cranbrook to Tenterden, in Kent; and for other purposes.

234. For the extension of the Wrexham, Mold, and Connah's Quay Railway to Whitchurch and Brymbo; and for other purposes.

236. For the amalgamation of the Waterford and Limerick Railway Company and the Limerick and Foynes Railway Company; and for authorizing the Waterford and Limerick Railway Company to work the undertaking of the Rathkeale and Newcastle Junction Railway Company; and for other purposes.

240. For authorizing the Peterborough, Wisbeach, and Sutton Railway Company to extend their line of railway; and for other purposes.

242. To enable the Great Northern Railway Company to extend their railway from Lincoln to Sleaford; and to authorize the amalgamation of the Boston, Sleaford, and Midland Counties Railway and the Bourn and Essendine Railway with the Great Northern Railway.

243. To enable the Great Northern Railway Company to complete their loop line between Doncaster and Gainsborough; and to improve the gradients of their railway south of Gainsborough.

244. To enable the Blyth and Tyne Railway Company to raise further sums of money; to extend the time limited in respect of certain of their authorized branches; and for other purposes.

245. For enabling the Midland Railway Company to construct new railways and works, and to acquire additional lands; and for other purposes.

246. To empower the North London Railway Company to construct additional works at Poplar; and for other purposes.

247. For making a railway from the Dartmouth and Torbay Railway, at Brixham Road Station to Brixham, in Devonshire; and a tramway in connection therewith; and for other purposes.

250. To authorize the amalgamation of the Hamilton and Strathaven Railway Company with the Caledonian Railway Company; and for other purposes.

251. For the incorporation of the West Grinstead, Cuckfield, and Hayward's Heath Junction Railway Company, and the making and maintaining of the West Grinstead, Cuckfield, and Hayward's Heath Junction Railway; and for other purposes.

252. To enable the Great Northern and Western (of Ireland) Railway Company to raise a further sum of money.

253. For the discharge of debts of the Irish North Western Railway Company; and for authorizing divers arrangements between that Company and other railway companies; and for other purposes.

254. To incorporate a company for making railways to connect the several railways in the town of Belfast, and to construct a central station in Belfast; and for other purposes.

258. For incorporating a company for making a railway in Devonshire, to be called the Buckfastleigh, Totnes, and South Devon Railway; and for other purposes.

260. For enabling the Metropolitan Railway Company to make additional works; for extending the time limited for the compulsory purchase of lands and completion of certain works; for authorizing the raising of additional capital; and for other purposes.

262. To amalgamate the Oswestry and Newtown, Llanidloes and Newtown, Newtown and Machynlleth, and Oswestry, Ellesmere, and Whitchurch Railway Companies, and to confer powers upon the amalgamated and other companies.

263. To authorize agreements between the Oswestry and Newtown, the Llanidloes and Newtown, the Oswestry, Ellesmere, and Whitchurch, the Newtown and Machynlleth, the Hereford, Hay, and Brecon, the Brecon and Merthyr Tydfil, and the London and North-Western Railway Companies; and for other purposes.

264. For authorizing the Rhymney Railway Company to make and maintain their Cardiff and Caerphilly and other railways; and for other purposes.

265. To authorize certain deviations from the existing and authorized lines of the Brecon and Merthyr Tydfil Junction Railway Company; and to empower that company to form a junction with the Limestone Railway of the Rhymney Iron Company; and (instead of the Vale of Neath Railway Company) to exercise the powers of the Vale of Neath Railway Act, 1863, for constructing the Merthyr Curve; and to raise further moneys; and for other purposes.

266. For making a railway from the Great Western Railway to Watlington, in Oxfordshire.

267. For making extension or connecting lines of railway in Bristol; and for other purposes.

269. For making a railway from the Cornwall Railway to Redruth, in Cornwall; and for other purposes.

270. To enable the Lancashire and Yorkshire Railway Company to construct railways between Blackburn, Chorley, Horwich, and Wigan.

271. For sanctioning an agreement between the Caledonian and

Edinburgh and Glasgow Railway Companies with respect to the construction of branch railways to connect their undertakings with Glasgow harbour; and for authorizing the formation of a joint station there; and for other purposes.

272. For the incorporation of the Ilfracombe Railway Company, and the making and maintaining of the Ilfracombe Railway; and for other purposes.

273. For the construction of railways in Lancashire, to be called the Lancashire Union Railways; and for other purposes.

274. To authorize the London, Brighton, and South Coast Railway Company to make certain lines of railway, and other works in and near the parish of Battersea, in Surrey; and for other purposes.

275. For authorizing the Rhymney Railway Company to make and maintain lines of railway to join the Brecon and Merthyr Tydfil Junction Railway, and the Merthyr, Tredegar, and Abergavenny Railway respectively; and for other purposes.

276. To authorize the Rickmansworth, Amersham, and Chesham Railway Company; to make and maintain a level crossing on their railway at Rickmansworth; and for other purposes.

278. For making a railway from the Mid-Sussex Railway, in the parish of Hardham to the Shoreham, Steyning, and Henfield Railway, near the town of Steyning; and for other purposes.

279. To empower the Edinburgh and Glasgow Railway Company to make railways at Cowlairs, and between Maryhill and the river Clyde; to authorize the construction of a tramway at the harbour of Glasgow; and for other purposes.

281. To authorize the construction of railways from Dublin to Rathmines, Rathgar, Roundtown, Rathfarnham, and Rathcoole; and for other purposes with relation to the said railways.

282. To authorize the Great Eastern Railway Company to make several short junction railways for connecting different railways in their system at various points; and for other purposes.

283. To authorize the construction of a railway from Alford to Mablethorpe, in Lincolnshire; and for other purposes.

284. For making railways in Shropshire and Staffordshire, to be called the Drayton Junction Railway; and for other purposes.

285. To authorize the construction of railways from Cheltenham to Witney, in Oxfordshire, and to Faringdon, in Berkshire, to be called the East Gloucestershire Railway.

286. For making and maintaining the City of Glasgow Union Railway; and for other purposes.

287. For incorporating a Company, and for making and maintaining the Kingsbridge Railway; and for other purposes.

288. For authorizing a lease of a portion of the undertaking of the company of proprietors of the Lancaster Canal Navigation to the company of proprietors of the Canal Navigation from Leeds to Liverpool, and of the remainder thereof to the London and North-Western Railway Company; and for other purposes.

289. For incorporating the Launceston, Bodmin, and Wadebridge Junction Railway Company, and authorizing them to make and maintain the Launceston, Bodmin, and Wadebridge Junction Railway; and for authorizing arrangements between that company and the Okehampton Railway Company; and for other purposes.

290. To authorize the construction of a railway in the borough of Liverpool, to be called the Liverpool Central Station Railway; and for other purposes.

291. To enable the Metropolitan Railway Company to extend their railway to Notting Hill, Kensington, and Brompton.

292. For enabling the Scottish Central Railway Company to extend their stations at Perth and Dundee; and to execute certain other works in the counties of Perth, Forfar, and Stirling; and for other purposes.

293. To authorize the construction of a railway to connect the Swansea Vale and Neath and Brecon Railways.

294. For making a railway from the river Tamar, in the parish of Calstock, to Callington, in Cornwall; and for other purposes.

296. For vesting the undertaking of the Saint Helen's Canal and Railway Company in the London and North-Western Railway Company.

295. To enable the Worcester, Dean Forest, and Monmouth Railway Company to extend their railway to the Great Western Railway, near Gloucester; and for other purposes.

298. For changing the name of the Alton, Alresford, and Winchester Railway Company, and for authorizing them to make and maintain railways (the Mid-Hants lines) in extension of their authorized railways (the Alton Lines); and to raise moneys for the purpose; and to make arrangements with other companies; and for other purposes.

297. To enable the South Wales Mineral Railway Company to extend their undertaking.

299. To enable the Great Northern and Western (of Ireland) Railway Company to use a portion of the Midland Great Western Railway (of Ireland) near Athlone, and to make agreements with the Great Southern and Western Railway Company, and to issue a portion of their share capital as preference shares; and for other purposes.

300. To extend the time for the purchase of lands for and completion of the Kilpurcell Branch Railway of the Kilkenny Junction Railway Company; and to confer upon that company running powers over the Waterford and Kilkenny Railway; and to enable them to raise further money; and for other purposes.

301. To authorize the construction of a railway from the Parsonstown and Portumna Bridge Railway to the town of Portumna.

302. For authorizing certain arrangements between the Much Wenlock and Severn Junction Railway Company and Wenlock Railway Company and the Great Western Railway Company; and for extending the time for the compulsory purchase of property required for the Wenlock Railway; and for other purposes.

303. To authorize the construction of a railway from the Metropolitan Railway through St. John's Wood to the Hampstead Junction Railway.

304. To enable the Brecon and Merthyr Tydfil Junction Railway Company to construct new lines between their authorized lines and the Rhymney Railway, and to connect the Rumney and Rhymney Railways, and between the Rumney Railway and Caerphilly and Llantwitfardre, and to join the Great Western Railway; and to raise further moneys; and for other purposes.

306. For conferring further powers on the Great Western Railway Company for the construction of works and the acquisition of lands, and otherwise in relation to their own undertaking and the undertakings of other companies and persons; and for other purposes.

307. For making a railway from the Bristol and Exeter Railway to Barnstaple; and for other purposes.

308. To authorize the construction of several railways and a canal, chiefly in the parishes of Wolstanton and Audley, by the North Staffordshire Railway Company, and to confer other powers upon such company and various other companies and the Duke of Bridgewater's Trustees.

309. To authorize the construction of railways from the Silverdale and Newcastle Railway at Wolstanton to the Old Manor House at Madeley, and thence to the Nantwich and Market Drayton and London and North Western Railways; and for other purposes.

310. For making a railway from Petersfield to Bishops Waltham; and for other purposes.

311. For the amalgamation of the Mid-Kent Railway Company, and their undertaking, railway, and property, with the South-Eastern Railway Company; and for other purposes.

312. To authorize the construction of railways between Cannock Chase and Wolverhampton, in Staffordshire; and for other purposes.

313. To authorize the Great Eastern Railway Company to make several railways in and near the metropolis in connection with their existing railway, and to purchase lands for a station in the city of London.

314. To enable the London, Brighton, and South Coast Railway Company to make new lines of railway in Surrey and Sussex; to acquire additional lands; and to acquire the undertakings of certain other companies; and for other purposes.

315. To enable the Metropolitan Railway Company to extend their railway from Finsbury Circus to Trinity Square, Tower Hill; and for other purposes.

316. To enable the Neath and Brecon Railway Company to extend their railway to the Central Wales Extension Railway, and to construct a branch to the Banwen and Maesmarchog collieries; and for other purposes.

317. To enable the Portpatrick Railway Company to alter certain of their works; to increase their capital; to make working arrangements with certain companies; and to use portions of other undertakings.

318. To enable the Portpatrick Railway Company to establish communication by steam vessels between Portpatrick and Donaghadee, and between Stranraer and Belfast and Larne.

320. To authorize the Manchester, Sheffield, and Lincolnshire Railway Company to run steam and other vessels between Great Grimsby and certain foreign ports.

321. For making railways and tramways in and near Dublin.

322. For authorizing the completion of an Inner Circle of Railways north of the Thames.

323. For making railways from the Hampstead Road to the Charing Cross Railway at Hungerford, with a branch to the London and North Western Railway; and for making new streets from Tottenham Court Road to Chandos Street, Strand, and from the Strand to Duke Street; and for other purposes.

325. For making and maintaining the Tooting, Merton, and Wimbledon Extension Railway; and for other purposes.

326. To authorize the construction of a pier at Aldborough, in Suffolk, and of a railway therefrom to the Great Eastern Railway at Aldborough, with a branch railway to Slaughden; and for other purposes.

327. For making a railway from the authorized line of railway from Ryde to Lower Shanklin, near Yar Bridge, to Bembridge Point, with a pier or landing-place there, and a tramway from the said intended railway to Bembridge Down, all in the parish of Brading, in the Isle of Wight; to authorize arrangements with the Isle of Wight Railway Company; and for other purposes.

328. To authorize the construction of railways or tramways from the town of Holywell to Greenfield, in Flintshire, and to the Holywell station of the Chester and Holyhead Railway; and for other purposes.

329. For making a railway from the Great Southern and Western Railway, in the parish of Naas, Kildare, to the town of Baltinglass, in Wicklow; and for other purposes.

V. NAVIGATION:—

Rivers and Canals:—203. To further amend and extend the Acts for the improvement of the navigation of the rivers Burry, Loughor, and Lliedi, in Carmarthenshire and Glamorganshire, and for the improvement of the harbour of Llanelly, in Carmarthenshire; and to grant certain powers to the Llanelly Railway and Dock Company, and the South Wales Railway Company, in relation to the improvement of the said harbour; and for other purposes.

255. For incorporating the Millwall Canal Company, and for authorizing them to make and maintain canals and other works in the Isle of Dogs, and thereby, and by the appropriation of works and lands there, to provide accommodation for shipping, and waterside accommodation for shipbuilding and other businesses requiring water frontage; and for other purposes.

Harbours, Piers, &c.:—33. To make provision for equalizing the revenue and expenditure of the Aberbrothwick Harbour Trust; to enable the trustees to borrow a further sum of money; and for other purposes relating to the said harbour.

41. To enable the Swansea Harbour Trustees to construct additional works, and to raise a further sum of money for the purposes of their undertaking; and for other purposes.

46. For extending the powers of the Chichester Harbour Embankment Act, 1859.

48. For authorizing the improvement of the harbour of Porth Cawl, to confirm arrangements relative thereto between the Llynvi Valley Railway Company and the Ogmore Valley Railways Company; and for other purposes.

105. To amend the Act 3 Victoria, cap. 44, for regulating and preserving the harbour of Workington, in Cumberland, in relation to the securities to be granted for borrowed money; and for other purposes.

131. For empowering the Commissioners of the Harbour of Tralee to raise money; and for other purposes.

140. To consolidate and amend the Acts relating to the harbour of Port Glasgow.

155. For enlarging the powers of the Weston-super-Mare Pier Act, 1862; and for other purposes.

208. To consolidate and amend the Acts relating to the harbour of Ardrossan, and to provide for the improvement of the said harbour.

211. For enabling the Isle of Wight Ferry Company to raise additional capital; and for other purposes.

213. To enable the Mersey Dock and Harbour Board to raise a further sum of money for the purpose of increasing the accommodation of the dock estate on the Liverpool side of the river Mersey, and to make a diversion of Derby and Victoria roads; and for altering certain rates; and for other purposes.

248. To enable the trustees of the Clyde Navigation to lay down lines of rails or tramways upon and in connection with the quays at the harbour of Glasgow, and to borrow additional money; to alter certain of the rates leviable by them; and for other purposes.

267. For constructing a pier at New Brighton, in Cheshire.

280. For the incorporation of the Herne Bay, Hampton, and Reculver Oyster Fishery Company; and for authorizing them to establish and

maintain an oyster fishery in the estuary of the river Thames; and to make and maintain a pier and a tramway and other works; and for other purposes.

Docks, &c.:—2. To enable the Dock Company at Kingston-upon-Hull to raise a further sum of money.

31. For amalgamating the undertakings of the Commercial Dock Company, and of the Grand Surrey Docks and Canal Company; for consolidating and amending their Acts; and for other purposes.

51. For extending the time for the purchase of lands and the completion of the works authorized by the Greenwich and South Eastern Docks Act, 1859.

112. To authorize the construction of a Dock, Piers, a Railway, and other works at or near Deal, and a navigable channel therefrom to Sandwich, all in Kent; and for other purposes.

120. For incorporating the Lymington Harbour and Docks Company, and authorizing them to make and maintain the Lymington harbour and docks, and a railway and other works in connection therewith; and for other purposes.

127. For authorizing the Falmouth Docks Company to make and maintain additional works, and to raise further moneys; and for other purposes.

178. For the amalgamation of the London Dock Company and the Saint Katharine Dock Company into one company, by the name of the London and Saint Katharine Docks Company, and for the transfer to that Company, and the amalgamation with their undertakings and docks, of the undertakings and docks of the Victoria (London) Dock Company; and for other purposes.

237. For authorizing the West London Docks and Warehouses Company to execute further works, and to make arrangements with other Companies; to raise further moneys; and for other purposes.

241. To authorize the construction of a Dock and other works near the mouth of the river Avon, to be called the Bristol Port and Channel Dock; and for other purposes.

256. For authorizing the construction of Docks and other works upon or near Hubberston Pill, at Milford Haven, in Pembrokeshire; and for other purposes.

319. To authorize the construction of Docks, and a branch railway and other works, at Exmouth, in Devonshire; and for other purposes.

Miscellaneous:—167. For rendering valid letters patent granted to Thomas Webster Rammell for improvements in Pneumatic Railways and Tubes.

168. To provide for the discharge, by deputy, in certain cases, of the functions of Warden in the University of Durham; and to authorize the abolition of certain Fellowships in the said University; and to provide a further endowment for the School of Theology, and a proposed School of Physical Science, in the said University; and for other purposes.

VI. Private Regulation. Nearly all the fifteen Acts in this class relate to the settlement or transfer of estates. One of the exceptions is for the repair and restoration of Kilkenny Cathedral; another is to enable John Chillenden, clerk, to hold any benefice or preferment in the United Kingdom of England or Ireland.

XV.—SUMMARY OF PUBLIC PETITIONS.

Session 27 & 28 Victoriæ.

I. *Parliamentary.*

	Petitions signed Officially or under Seal.	Total Number.	No. of Signatures.
Borough Franchise Bill	21	32	6,359
County Franchise Bill and Borough Franchise Bill—In Favour	4	13	1,405
Other Petitions on Parliamentary Subjects	1	4	4
Total Parliamentary	26	49	7,768

II. *Ecclesiastical.*

Conventual and Monastic Establishments—For Inquiry	15	150	45,135
Episcopal Church (Scotland)—For Power to Bishops to accept or refuse Clergymen appointed to their Dioceses	—	44	2,004
Established Church (Ireland)—For Abolition	—	243	78,427
Intoxicating Liquors — For Prohibiting Sale on Sunday	74	1,577	175,280
Roman Catholic Prisoners—For Spiritual Provision	—	1	10,421
Scottish Episcopal Clergy Disabilities Removal Bill—In Favour	1	33	1,278
Sunday Trading—For Restriction	—	71	10,332
Other Petitions relating to Ecclesiastical Subjects	89	181	5,178
Total Ecclesiastical	179	2,300	328,055

III. *Colonial.*

Azeem Jah—For Restoration of Rights	22	37	4,954
Other Petitions relating to Colonial Subjects	23	486	1,556
Total on Colonial Subjects	45	523	6,510

IV. *Taxation.*

Collection of Taxes Bill—Against	6	41	3,462
Fire Insurance—For Repeal or Reduction of Duty	193	514	31,915
Local Taxation (Dublin)—For Relief	1	2	7,980
Malt—For Repeal of Duty	13	1,023	112,584
National Expenditure—For Reduction	—	6	6,517
Sugar—For Reduction and Equalisation of Duties	2	80	2,133
Other Petitions relating to Taxation	192	272	3,694
Total Taxation	407	1,938	168,285

V. *Miscellaneous.*

	Petitions signed Officially or under Seal.	Total Number.	No. of Signatures.
America—For Termination of the War	1	88	14,687
Cattle Diseases Prevention Bill—Against	20	25	4,165
County Courts Acts—Against proposed Bill	—	2	1,021
Education—Against Minute of 19th of May, 1863	30	452	8,501
—— Against Minute of 11th March, 1864	14	207	3,119
—— (Ireland)—Against Alteration of present System	16	62	3,230
—— (Revised Code)—For Alteration	24	89	1,091
Factory Acts Extension Bill—Against	4	9	3,049
—— For Alteration	5	7	1,265
—— In Favour	3	14	1,411
Government Annuities Bill—Against	8	350	45,761
—— For Alteration	3	10	3,546
—— In Favour	27	65	5,302
Grand Juries (Ireland)—For Alteration of Law	—	1	1,312
Herring Fisheries (Scotland) Act (1860)—For Alteration	—	2	1,471
Highways Act—For Alteration	1	20	5,431
—— For Inquiry	—	2	2,379
Highways Act Amendment Bill—Against	5	10	1,246
Hypothec (Scotland)—For Alteration of Law	4	15	5,089
Intoxicating Liquors—For Prohibiting Sale in certain Cases	351	2,536	479,810
Intoxicating Liquors Bill—Against	1	6	3,382
—— In Favour	3	11	2,601
Jersey Court Bill—Against	1	2	4,273
—— In Favour	1	8	3,867
Poland—For Restoration of Independence	—	27	4,859
Punishment of Death—For Abolition	7	41	3,745
Railway Schemes (Metropolis)—Against	1	2	1,532
Rivers Pollution (Scotland) Bill—Against	7	61	3,027
Spinning Machines (Admiralty Dockyards)—Against Increase thereof	—	12	1,496
Tenant Right (Ireland)—For Alteration of Law	2	169	48,995
Thames Conservancy Bill—Against	9	21	4,758
Other Petitions relating to Miscellaneous subjects	554	1,055	16,275
Total Miscellaneous	1,102	5,381	691,696
Total Number	1,759	10,142	1,202,314

XVI.—CHRONICLE OF OCCURRENCES.

From October, 1863, *to November*, 1864.

Nov. 5, 1863. The French Chambers opened by the Emperor. In his speech he congratulated them on the interior prosperity of the country, on the success of their forces in Mexico and Cochin China; alluded to the distressing position of Poland; and announced his intention of proposing a General Congress to consider of the state of all the European Powers in order to preserve peace.

17. Immediately on receiving the news of the accession of Christian IX. to the throne of Denmark, the States of Holstein announced their intention of refusing to take the oath of allegiance; and this was followed by the Duke of Holstein-Augustenburg announcing his claim to the Duchy, which claim was admitted by the German Diet at Frankfort. A Danish force was sent to Kiel, and the meeting of the Holstein Diet was forbidden.

19. The Common Council of the City of London voted the grant of a piece of land in Victoria-street, for the site, and the sum of 20,000*l*. for the erection, of a lodging-house for the accommodation of the poor on reasonable terms.

27. The correspondence published in the 'Gazette,' between M. Drouyn de Lhuys, on the part of the Emperor of the French, respecting the proposed Congress, and Earl Russell; in which Earl Russell declined to enter any such Congress, as it would lead to no practically good result, because it would rather "give occasion for useless debate than for practical and useful deliberation in a Congress of twenty or thirty representatives, not acknowledging any supreme authority, and not guided by any fixed rules of proceeding."

Dec. 2 and 3. A violent gale continued during the whole of these two days throughout the kingdom. The damage done was very large, and there was great loss of life at sea.

8. At Santiago in Chili, on the last evening of a long festival in honour of the Immaculate Conception, in the Church de la Compania; some of the muslin drapery of the image of the Virgin caught fire. The interior of the church, with the roof, was chiefly of wood; there was but one available exit, and this was rendered impassable by the rushing crowd who choked the passage, and in fifteen minutes 2,000 corpses were all that remained of the congregation enclosed within the fiery furnace.

14 to 24. A most destructive flood at Melbourne in Victoria, the river Yarra rose forty feet above its usual level, and nearly the whole city was laid under water, the gas-works were flooded, and for several nights could supply no light; the navigation of the river was stopped, and the traffic on the Hobson's Bay railway. Furniture, animals, files of papers, and every other description of floating material were borne down the river to the bay, and the damage done was estimated at a quarter of a million, but fortunately there was no loss of human life.

18. A great fire in Wood-street and Milk-street in the City of London. The premises were occupied by several extensive warehousemen; no lives were lost, but the damage done was estimated at 150,000*l*.

24. The Saxon and Hanoverian troops, acting for the Federal Diet of Germany, march into Altona, and take possession of it "without prejudice to the only temporarily suspended rights of the sovereign." The Danish troops withdrew without offering any opposition.

26. A colliery explosion at Maesteg, Glamorganshire, in which fourteen men and boys were killed, occasioned by the use of unprotected lights.

29. Four Italians, named Greco, Imperatori, Trabuco, and Scaglioni, were arrested by the French police in Paris, charged with an intention of assassinating the Emperor.

Jan. 8, 1864. The Princess of Wales gave birth to a son, who was baptized on March 10th, as Albert Victor Christian Edward.

11. The case of the seizure of the Alexandra, for a breach of the Foreign Enlistment Act, in which a verdict for the defendants had been given in June 1863, had been again brought before the Court of Exchequer, by a motion by the Attorney-General for a new trial. The arguments on both sides occupied the Court for six days in the Michaelmas Term of 1863, and on this day the judgment of the Court was given. The Lord Chief Baron and Mr. Baron Bramwell were against granting the rule; Barons Channell and Pigott were in its favour: as the Court was thus equally divided, the junior Baron, according to a recognised custom, withdraws his judgment; and therefore the rule was refused.

15. At half-past seven in the evening a fire on board the Lottie Sleigh, lying in the Mersey off Tranmere, occasioned the explosion of eleven tons of gunpowder, with which she was loaded. The effects on Liverpool and Birkenhead were terrific, the gas in the streets and shops was extinguished; shop windows were blown in, but fortunately, the explosion was unattended with any loss of life.

31. The proposal of Austria and Prussia that the troops of the German Confederation should be restricted to the occupation of Holstein, and should not interfere with Schleswig, having been rejected in the Diet at Frankfort by ten votes to five, the two Powers announced that they should take the matter into their own hands, as parties to the Treaty of London of 1852, and they summoned Denmark to annul the constitution by which Schleswig had been incorporated in the kingdom. Denmark applied for time to obtain the sanction of the Rigsraad, which was refused, and Marshal Wrangel, at the head of 70,000 men, summoned General de Meza, the Danish commander, to evacuate Schleswig, to which the reply was, that he had orders to defend it.

Feb. 12. The King of Ashantee having made war on the Fantees (an African territory under the protection of the British at Cape Coast), who had refused to give up two fugitives claimed by him; Governor Pine ordered a force to be marched to repel and punish the Ashantees. The wet season set in much earlier than was anticipated, and, without seeing an enemy, or firing a shot, the force of above 1,200 men, chiefly coloured men officered by Europeans, were prostrated by fever; the loss by death, independent of the suffering, was fearful, and the remains of the expedition were ordered to return. The affair gave rise to a sharp parliamentary discussion on June 17.

8. By the Judicial Committee of the Privy Council the judgment of the Court of Arches in the cases of the Bishop of Salisbury against R. Williams, and of Fendall against Wilson, for articles written in 'Essays and Reviews,' were reversed. On the same day seven judges in the Court of Exchequer Chamber decided, by a majority of four to three, that they had no jurisdiction in the matter of the seizure of the Alexandra, and that the House of Lords was the proper court of appeal.

25. The four Italians charged with conspiring to assassinate the Emperor of the French were tried. It was proved that on their first entering France from Italy they had been under the constant watch of the police, in consequence, it was said, of Trabuco being recognized as having been pointed out as a dangerous character in 1862. Greco at once admitted the fact, stating that the proposal had come from Mazzini, who had furnished the money, the explosive bombs (which were proved to be of a most dangerous character), and the weapons, and that no one had come between him and Mazzini. Trabuco confirmed Greco, saying that he had a life for his country, which had been oppressed by the Emperor. Imperatori declared that Greco had drawn him into the plot by degrees; and Scaglioni pleaded that he had been drawn into it by Imperatori. All were found guilty; Greco and Trabuco sentenced to transportation, Imperatori and Scaglioni to twenty years' imprisonment.

March 8. The resignation of Sir Rowland Hill of his office of Secretary to the Post-Office is announced in the House of Lords. The cause was ill

health. A just tribute was paid to his exertions, and regret expressed for the loss of his services, by the Postmaster-General.

10. Death of Maximilian II., King of Bavaria, aged 53. He is succeeded by Ludwig II., born Aug. 25, 1845.

11. At nearly midnight the town of Sheffield and its neighbourhood suffered greatly by the bursting of the Bradfield reservoir. The water rolled a cataract upon the sleeping villages in the valley below, into and through Sheffield itself, down to the Don at Doncaster. Within the space of two or three hours 250 human beings, from the man of eighty to the baby in arms, were drowned in their beds, or in trying to escape, or crushed beneath the ruins of their dwellings.

16. The King of Dahomey defeated in an attack on Abeokutah, one of the most commercial towns on the Guinea coast, with a loss of 1,000 killed, and 2,000 taken prisoners.

April 3. Garibaldi landed at Southampton, where he was received with immense enthusiasm; on the 11th he made his entry into London, amid an immense crowd, and took up his residence with the Duke of Sutherland, at Stafford House.

14. The Chincha Islands, of which the guano had been pledged for security for the Peruvian public debt, were seized by a Spanish squadron.

18. After a siege of nearly two months the Prussians captured Dybböl by assault. In the action the Danes lost nearly 5,000 men killed, wounded, or taken prisoners; but they succeeded in removing the greater part of their force to the isle of Alsen, after which the bridge of communication was destroyed. The loss of the Prussians was estimated at above 2,000 killed and wounded.

23. The celebration of the tercentenary of the birth of Shakspeare commenced at Stratford. It was also celebrated in London and some other towns.

25. The Conference on Danish affairs commenced in London, attended by the representatives of France, Russia, Austria, Prussia, Denmark, Sweden, and the German Confederation. The representatives of Great Britain were Earl Russell and the Earl of Clarendon.

27. Garibaldi leaves England, embarking at Fowey in the Duke of Sutherland's yacht, for Caprera.—Three tribes of Circassians, having been subdued by the Russians, leave their country to the number of 300,000, to take refuge in Turkey. Through a want of means of transport to Trebizond, many perished on the shores of the Black Sea; and arriving in crowded ships at Trebizond, in numbers greater than were expected, without the means of removal to places of permanent settlement, fever and small-pox broke out, and occasioned an enormous loss of life before their removal could be effected.

May 6 to 10. General Grant having advanced to attack General Lee, preparatory to the further advance upon Richmond, the fighting was continuous from Friday till Tuesday, the struggle on the last-mentioned day having been incessant for fourteen hours. General Lee maintained his position, and the Federals are stated to have lost 40,000 men in killed, wounded, and prisoners. On Thursday the 12th the Federals again attacked General Lee at Spottsylvania, who had fallen back on a strong position. Here the Federals claimed an advantage, as they captured some cannon and soldiers; but the loss of life was fearful, "the men on both sides having fallen like grain." On the 20th, having been strongly reinforced, finding he could not dislodge General Lee from his position, General Grant made a flank movement, gained a position south of the North Anna River, where he was furiously attacked by the Confederates, but maintained his position.

June 1. The Ionian Islands finally made over to Greece.

7. A sad railway accident to a train coming from Ascot after the close of the day's races. The trains followed each other close, bringing the visitors back, and at Egham one ran into another that was just about departing. Though the speed of the incoming train was slackened, it could

not prevent a collision, by which four persons were killed and twenty-five more or less injured. A verdict of manslaughter was returned against the driver and stoker by a coroner's jury on June 18, at the same time censuring the defective arrangements of the railway directors.

19. The Confederate steamer, the Alabama, after having inflicted an enormous loss on the Federal commerce, was on this day met, on leaving Cherbourg, by the Federal turret-armed frigate, the Kearsage. After an engagement lasting from eleven to twelve, A.M., the Alabama, in a sinking state, made for the French coast, which, however, she was unable to reach. A portion of the crew, with Captain Semmes, were picked up by the English steam yacht Deerhound, and brought to Southampton.

25. Death of William, King of Wurtemberg, aged 83. He was succeeded by his only son, Charles, married in 1846 to Olga, daughter of Nicholas, the late Emperor of Russia.—Last sitting of the Conference on the Danish war, Denmark and the German Powers alike refusing the proposals of the neutral powers. On the 26th the Prussians attacked and took the Isle of Alsen.

July 7. At mid-day the chapel of the Savoy, nearly four centuries old, and the last relic of the ancient palace, was destroyed by fire, nothing remaining but the bare walls. On learning the event, the Queen at once undertook to restore the building, in which she had previously taken much interest, at her own expense.

9. An atrocious murder committed in a first-class railway carriage on the North London Line. The victim was a banker's clerk, named Briggs, about sixty years of age. His skull was broken, and he had been flung out of the carriage on the line, near Hackney Wick, where he was found alive, but insensible, and he died within a few hours.

19. The city of Nanking stormed and captured by the Imperialists, the two chief leaders of the Taepings taken prisoners, and subsequently executed. The Taeping rebellion has been now almost crushed.

31. General Grant, who had been for a considerable time besieging Petersburg, near Richmond with an enormous Federal army, on this day made a furious assault. He had constructed a mine under one of the outermost defences of the town, charged with seven tons of gunpowder; and this was exploded a little before daybreak, carrying away between 400 and 500 of the Confederate troops. Through the opening thus made 18,000 men advanced toward the inner line of defence, but were received with such a murderous fire that they recoiled. Twice again the assault was renewed, but after sustaining a loss of from 8,000 to 10,000 men the Federals were forced to retire from the contest.

Aug. 6. The long and calamitous warfare with the Maories of New Zealand brought to a close by their almost unconditional submission: the revolt was punished only by a forfeiture of a small portion of their lands.

8. On occasion of the installation of the statue of Daniel O'Connell in Dublin, the Orangemen of Belfast burnt his effigy in that town, and on the following day buried the ashes with mock solemnity. This gave offence to the Roman Catholics; irritable feelings were excited, which resulted in an attack on the party forming the procession, the breaking of the windows of Protestant chapels, and the wrecking of houses inhabited by Protestants. On succeeding days the riot became more violent, as the anti-Catholics banded themselves in street fights against their adversaries. The police were powerless, were pelted with stones and driven away. As these combats continued, a military force was sent for, and additional policemen; but though these came to the number of 3,000 soldiers, and 1,000 of the police, they were ineffectual to stop the rioting, though many of the ringleaders were apprehended, the mobs fired upon, several killed and many wounded; unfortunately, some children and others who had taken no part in the riot. This continued till Saturday, the 13th, when a cessation took place. They were, however, renewed on the 16th, and continued till the 19th. Before the riots were ended there were nine killed, and 176 wounded

attended in the General Hospital, besides many who were treated at their homes privately.

Sept. 4. The Federal army under General Sherman take possession of Atlanta, in Tennessee, after a series of battles, in which many men were lost. The Confederate army retired, after removing all the provisions, ammunition, &c.

8. A convention at Chicago having nominated General M'Clellan as the democratic candidate for the Presidentship, he on this day issues a letter accepting the nomination, but expressing opinions relating to the maintenance of the war, which is declared by a large section of his supporters to be unsatisfactory.

15. A treaty concluded between France and Italy, by which it was agreed that the French troops should be withdrawn from Rome within two years, the Italian Government undertaking to protect the Pope against any attacks from without, and that for the present Florence shall be the seat of the Italian Government. On this news becoming known there was a riot in Turin, which was quelled by the military, but an immediate change of ministry was the consequence.

19. Haberdashers' Hall, and some fine new buildings in Gresham-street, London, destroyed by fire. The damage was estimated at nearly half a million, besides the loss of many valuable paintings, and other historical relics of the Haberdashers' Company.

Oct. 1. A terrific explosion of two gunpowder magazines, in Plumstead Marshes, occurred a little before seven in the morning. The buildings were isolated on the bank of the Thames, and were used for storing and embarking only. The quantity supposed to have been exploded, in three shocks, was between 120,000 lbs. and 150,000 lbs., and occasioned the death of ten persons, with injuries to about as many more. The buildings were entirely destroyed, and a gap of more than 100 yards was made in the embankment by which the river is confined. The accident occurred at nearly low water, but with the tide rising, and fears were entertained of an inundation. Prompt measures were, however, taken, and by the assistance of engineers, sappers and miners, and men from Woolwich, the breach was repaired sufficiently and in time to keep out the rising waters. The explosion was distinctly felt at various places, at distances of from thirty to fifty miles, and was by many persons mistaken for a slight earthquake.

5. A terrible storm at Calcutta: 200 ships were blown from their moorings in the Hooghly, some wrecked, and many driven ashore. There was also great loss of life, especially among the native boatmen, and much damage was also done to the buildings of the town; the huts of the natives were nearly all levelled to the ground; the Roman Catholic and Scotch churches, and the cathedral, were injured; all the trees were blown down, the botanic garden uprooted, and rain following, the decayed vegetable matter, it was apprehended, would produce fever.

30. A treaty of peace between Denmark, Prussia, and Austria, signed at Vienna, by which Denmark consents to resign the Duchies, to pay a large sum of money, and to submit to a "ratification" of the frontier of Jutland.—Franz Müller convicted of the murder of Mr. Briggs.

Nov. 7. The Prince and Princess of Wales landed at Woolwich on their return from a long visit to the courts of Denmark and Sweden.

XVII.—NECROLOGICAL TABLE

OF LITERARY AND SCIENTIFIC MEN, ARTISTS, ETC.

1863.		Age.
Nov.	1. Yates, John Ashton, political economy	82
	9. Döderlein, Ludwig, Professor at Tubingen University	72
Dec.	4. Harding, James Duffield, landscape painter	65
	12. Godfrey, Charles, musician	73
	13. Green, Joseph Henry, surgery and medicine	72

1863.		Age.
Dec.	18. Forshall, Rev. Josiah, biblical literature	69
	22. Vrolik, Willem, Dutch physiologist	62
	24. Thackeray, William Makepeace, novelist	52
1864.		
Jan.	3. Behnes, William, sculptor	63
	9. Woods, Joseph, architect and botanist	88
	10. Bielefeld, C. F., modeller in papier-mâché	61
	19. Buchanan, Walter, writer upon art	87
	29. Aikin, Lucy, history and general literature	83
Feb.	2. Procter, Adelaide Anne, poetess	—
	10. Hunt, W. H., painter in water-colours	74
	14. Portlock, Major-General J. E., engineer and geologist	69
	14. Dyce, William, R.A., historical painter	58
	15. Martin, W. C. L., natural history	66
March	5. Horner, Leonard, geology, &c.	79
	8. Keim, Franz Xavier, German architect	95
	14. Roberts, Richard, civil engineer	75
	21. Howard, Luke, meteorologist	93
	21. Flandrin, Jean Hippolyte, French painter	55
	27. Pillans, James, elementary and classical education	86
	27. Ampère, J. J., general literature	64
April	2. Cooke, T. P., actor	78
	5. Daniel, George, antiquities and general literature	74
	5. Watts, Alaric A., poet and essayist	68
	13. Schneider, Johann Gottlieb, musician	75
	23. Maudslay, Thomas Henry, civil engineer	72
	24. Duboufe, M., French painter	74
May	1. Smedley, Frank, novelist	50
	2. Meyerbeer, Giacomo, musical composer	70
	10. Normandy, Dr., chemist	54
	12. Wagner, Rudolph, natural history	50
	19. Clare, John, Northamptonshire poet	71
	19. Hawthorn, Nathaniel, American novelist	60
	25. Archer, John Wykeham, painter and antiquary	56
	27. Torrens, Lieut.-Col., political economy	84
	27. Sealsfield, Charles, novelist	67
	30. Rebout, M., French baker and poet	68
June	1. Gordon, Sir John Watson, portrait painter	74
	3. Fox, W. J., political economist	77
	4. Senior, Nassau William, political economist	73
	11. Ferrier, J. F., moral philosophy, &c.	58
	13. Pidding, H. J., artist	67
	17. Miller, James, surgery, &c.	52
	17. Cureton, Rev. William, orientalist	56
	18. Lance, George, painter	62
July	—. Grattan, Thomas Colley, novelist, &c.	69
Aug.	4. Husson, Aristide, French sculptor	61
	17. Thomson, Dr. R. D., medicine and physical science	59
Sept.	1. Enfantin, Père, writer on the doctrines of the Saint Simonians	69
	17. Landor, Walter Savage, poet, &c.	90
Oct.	2. Jasmin, Jacques, French barber poet	66
	3. Winston, Charles, writer mediæval painted glass	50
	4. Madach, Emerich, Hungarian poet	—
	29. Leech, John, caricaturist, &c.	47
Nov.	11. M'Culloch, John Ramsay, political economist	75

Hardy, Peter, printed in last year's Necrology erroneously as an antiquary, was an actuary.

XVIII.—Highest and Lowest Prices of the Principal Stocks from November 1863 to October 1864.

1863.	Bank Stock.	3 per Cent. Red.	3 per Cent. Cons.	New 3 per Cent.	India Stock.	Exchequer Bills. £1000.
November	237	91¼	93	91¼	226½	1 premium.
	234	90⅜	92	90¼	221	3 discount.
December	236	91⅝	92⅛	91⅝	224	6 premium.
	234	90	90½	89¾	221	10 discount.
1864.						
January	237	91⅛	91⅛	91⅞	218	4 premium.
	235	90½	90⅜	90½	213	10 discount.
February	239	91½	91⅜	91⅝	219	Par.
	235	90	90⅛	90⅛	213	10 discount.
March	240	91⅝	91¾	91	220	Par.
	234¾	89⅝	90⅞	89⅝	218	8 discount.
April	240	89⅞	91¾	89¾	220	2 ,,
	236½	89⅛	91⅛	89⅛	218	12 ,,
May	239½	89⅝	91⅞	89⅝	220	4 ,,
	237	88¼	90½	88½	217	18 ,,
June	239	89⅝	91¾	89⅝	218½	4 ,,
	235	88½	89¾	88½	216	10 ,,
July	242	89⅞	90⅝	90	215	3 ,,
	237	89	89¾	89¼	210	20 ,,
August	244	89⅜	90	89½	213	15 ,,
	240	87⅛	88⅜	87¾	210	25 ,,
September	244	88¼	88¾	88⅛	212	5 ,,
	242	85¼	87⅛	85½	209	30 ,,
October	238	87	88¾	87⅛	213	4 ,,
	235	85⅞	87⅝	85¾	210	25 ,,

The rate of discount at the Bank of England was raised on Dec. 2, 1863, from the 6 per cent. fixed on Nov. 2, to 7 per cent.; on Dec. 3, to 8 per cent.; it was reduced to 7 per cent. on Dec. 24; on Jan. 20, 1864, it was raised to 8 per cent.; on Feb. 12, reduced to 7 per cent.; and on Feb. 25, to 6 per cent.; on April 16, it was raised to 7 per cent.; on May 2, to 8 per cent.; and to 9 per cent on May 5; but reduced to 8 per cent. on May 19; to 7 per cent. on May 26; and to 6 per cent. on June 16; on July 25, it was advanced to 7 per cent.; on Aug. 4 to 8 per cent.; on Sept. 8, to 9 per cent.; and on Nov. 10, reduced to 8 per cent.

XIX.—Average Price of Corn, per Imperial Quarter, in England and Wales, for one Week in each Month.

1863.	Wheat.	Barley.	Oats.	Rye.	Beans.	Peas.
November 28	40s. 3d.	33s. 7d.	19s. 7d.	34s. 9d.	36s. 1d.	34s. 1d.
December 19	41 2	32 6	19 0	29 4	34 9	33 7
1864.						
January 16	40 11	31 10	18 10	28 0	33 7	33 1
February 13	40 8	31 11	19 1	29 1	33 7	33 7
March 19	39 9	31 4	19 2	32 4	32 10	32 11
April 16	40 1	30 10	19 3	27 8	33 0	31 11
May 14	39 3	29 6	19 8	28 5	34 3	32 6
June 18	40 3	27 6	20 4	32 8	35 5	33 9
July 16	42 6	27 10	21 7	31 5	36 11	34 3
August 13	43 6	28 1	22 0	32 9	39 8	36 9
September 17	42 0	32 2	20 11	35 6	40 10	36 1
October 22	38 6	30 2	20 0	28 0	38 2	35 5

LONDON: PRINTED BY W. CLOWES AND SONS, STAMFORD STREET AND CHARING CROSS.

6 JA65

ALLIANCE
BRITISH AND FOREIGN
LIFE AND FIRE ASSURANCE COMPANY,
BARTHOLOMEW LANE, LONDON, E.C.
ESTABLISHED 1824.

(Branch Offices: Edinburgh, Manchester, Sheffield, Ipswich, Bury St. Edmunds, Gosport.)

Capital, FIVE MILLIONS Sterling.

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SIR MOSES MONTEFIORE, BART.

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Surveyors.—WYATT PAPWORTH, Esq.—THOMAS G. ALLASON, Esq.

LIFE ASSURANCE.

LIFE ASSURANCES are granted under an extensive variety of forms, *with, or without, participation*, and at moderate premiums.

Special attention is called to the Tables of Rates for NON-PARTICIPATING ASSURANCES, which are calculated on the lowest scale consistent with safety.

FIXED BONUS.—Guaranteed periodical fixed Bonuses may be secured irrespective of participation in the Company's profits.

ENDOWMENTS granted for Marriage Portions, Educational provision or other objects by way of deferred Annuities or payment of Capital sums on attainment of a specified age.

LOANS on approved Personal Security combined with Life Assurance.

FIRE ASSURANCE.

FIRE RISKS generally on the usual terms.

FOREIGN INSURANCES accepted at very moderate premiums.

FRANCIS A. ENGELBACH, *Actuary.*
D. MACLAGAN, *Secretary.*

ATLAS FIRE & LIFE ASSURANCE OFFICE,

92, CHEAPSIDE, LONDON.

Established 1808,

And Empowered by Act of Parliament of the 54th Geo. III. c. 79.

Capital, £1,200,000.

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This Office has been established more than 55 years, and its present magnitude and prosperity prove the soundness of the principles on which it has been conducted.

LIFE DEPARTMENT.

The Accumulated Premiums are over £1,650,000. The Annual Income exceeds £180,000.

The sum of £4,013,693 has been paid in claims under Life Policies.

Large Bonuses have been declared and paid as additions to the amounts assured.

Premiums on Policies have been greatly reduced where parties have so applied the Bonuses on their Policies.

Persons Assuring in Great Britain have the option of *Participating Rates of Premium*, or of *Non-Participating Rates*.

Combined provision may be made for old age and early death, so that a person may secure a sum to be paid *to himself* at an age agreed upon, or to his executors if he should die before that age.

Residence in Countries beyond the limits of Europe is allowed on favourable terms; in most temperate climates without extra Premium, beyond a moderate charge for the voyage only. *Whole world* Assurances are granted.

Notices of the Assignment of Life Policies are received and acknowledged.

Advances are made on Polices to the extent of their value.

Persons desiring to surrender their Assurances may receive their value in money, or in lieu thereof, may obtain a new Policy *without further payment of Premium.*

The Directors are ready to receive proposals for Assurances or any contingency involving payment of a sum at death.

FIRE DEPARTMENT.

This Company undertakes the Assurance of almost every species of Property in the United Kingdom, at Rates of Premium and upon principles which will be found quite as advantageous to the interests of the Assured as those offered by any other Office. The Directors can confidently refer to the well-known character of the Company for liberality and promptitude in the discharge of claims made upon it during the many years it has been established.

No charge will be made for Policies when the sum assured amounts to £300.

Renewals should be paid within fifteen days after the respective Quarter-days when they become due.

Losses occasioned by *Lightning* will be paid. The Policies of the *Company* extend to cover *Losses* occasioned by the *Explosion of Gas.*

The Company is ready to receive applications for agencies in those Towns and Districts in which it is not at present represented. Application to be made to the Secretary.

N.B. GOVERNMENT DUTY.—*On and after Midsummer*, 1864, *all Fire Assurances upon Stock, Machinery, Implements, Fixtures and Utensils in Trade, will be subject to the Reduced Duty of* 1s. 6d. *per cent.*

Tables of Rates, Forms of Proposal, and any information needful to effect Life or Fire Assurances, may be obtained on application to the Office, No. 92, Cheapside, London, or to any of the Company's Agents.

RICHARD RAY, *Secretary.*

EAGLE INSURANCE COMPANY,

TEMPORARY OFFICES:—

MILTON CHAMBERS, 14 LUDGATE HILL,

LONDON, *E.C.*

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Actuary and Secretary.—CHARLES JELLICOE, Esq.

The Business of the Company comprises Assurances on Lives and Survivorships, granting of Contingent Annuities, Loans of Money on Mortgage, &c.

The realized Assets of this Company amount to about Two Millions sterling.
The Annual Income is about Three Hundred and Ninety Thousand Pounds.
The number of existing Policies is upwards of Sixteen Thousand.
The total Amount Assured exceeds Nine Million Six Hundred Thousand Pounds.
The Divisions of Surplus are Quinquennial, and the whole surplus (less twenty per cent. only) is distributed amongst the Assured.

At the last Division of Surplus the additions to the Sums Assured under Policies effected upon the participating scale, ranged according to the age of the life assured, from 20 to 70 per cent. of the Premiums paid since 1857.

The Premiums required, although moderate, entitle the Assured to 80 per cent. of the Quinquennial Surplus.

The Lives assured are permitted, in time of Peace, without extra charge, to reside in any country (Australia and California excepted) north of 33 degrees north latitude, or south of 33 degrees south latitude, or to pass by sea (not being seafaring persons by profession) between any places lying north of 33 degrees north latitude, or lying south of 33 degrees south latitude.

All Policy Stamps and Medical Fees required on effecting Assurances are paid by the Company.

By recent enactments, persons are exempt, under certain restrictions, from Income Tax, as respects so much of their income as they may devote to Assurances on Lives.

The Annual Reports of the Company's state and progress, Prospectuses, and Forms, may be had, or will be sent, post free, on application at the Office, or to any of the Company's Agents.

EDINBURGH LIFE ASSURANCE COMPANY,

Established in 1823, *and Incorporated by Special Act of Parliament.*

CAPITAL £500,000.

ACCUMULATED AND INVESTED FUNDS, NEARLY ONE MILLION STERLING.

EDINBURGH, 22, GEORGE STREET. GLASGOW, 65, ST. VINCENT STREET.
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SPECIMEN OF BONUS ADDITIONS PAID ON SOME OF THE OLDEST POLICIES.

No. of Policy.	Age at Assuring.	Age at Decease.	Sum Assured.	Bonus Additions.	Total Amount Paid.
			£	£. s.	£. s.
691	60	89	1000	1733 15	2733 15
348	52	85	200	279 14	479 14
210	50	83	500	614 16	1114 16
44	49	83	200	232 18	432 18
647	51	82	500	505 3	1005 3
736	53	81	2000	1795 9	3795 9
282	46	78	500	430 0	930 0
51	52	81	1500	1076 12	2576 12
2?9	48	79	1000	659 10	1659 10
646	41	71	500	310 14	810 14

SPECIMEN OF RATES FOR ASSURING £100 ON A SINGLE LIFE.

	Without Participation.			With Participation.	
Age.	1 Year.	7 Years.	For Life.	Age.	For Life.
	£. s. d.	£. s. d.	£. s. d.		£. s. d.
20	0 17 3	0 19 11	1 12 8	20	1 17 4
25	0 18 9	1 2 2	1 16 9	25	2 2 0
30	1 1 3	1 4 8	2 1 8	30	2 7 7
35	1 3 5	1 7 9	2 7 8	35	2 14 6
40	1 6 10	1 11 10	2 15 3	40	3 3 2
45	1 10 6	1 16 3	3 4 11	45	3 14 2
50	1 15 1	2 4 5	3 19 9	50	4 9 0
55	2 4 9	2 18 11	5 0 0	55	5 9 1
60	3 1 8	3 18 11	6 4 4	60	6 15 8

EQUITABLE ASSURANCE OFFICE,

NEW BRIDGE STREET, BLACKFRIARS.

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The EQUITABLE, established in 1762, was one of the earliest Offices on the Mutual principle.

The entire profits are divisible among its members, no portion of the same being diverted either for dividends on shares, as in "proprietary" offices, or for "commission" to agents.

Since its establishment in the year 1762 it has paid £16,880,000 in claims, and £15,690,000 for bonuses on the same.

The Invested Capital on the 31st of December, 1863, exceeded £5,000,000 sterling.

The reserve at the last rest, in December 1859, exceeded £770,000, as a basis for future divisions.

Under the bye-law of the 19th of December, 1816, the oldest 5,000 policies are admitted to participation in the bonuses.

New Assurers in the current year (1865) will be placed among that number after payment of their first premium, and will become entitled to a rateable share in the bonus to be made in December, 1869, on payment of the Annual Premium in 1870.

Surrender of Policies.—The full value is paid on surrender, without any deduction.

Loans on Policies.—The Directors will make advances on deposit of the Policies.

TABLE OF ANNUAL PREMIUMS for assuring the sum of £100 upon the Life of any Healthy Person from the Age of Eight to Sixty-seven.

Age.	For the whole Life.	Age.	For the whole Life.	Age.	For the whole Life.	Age.	For the whole Life.
8 to	£. s. d.		£. s. d.		£. s. d.		£. s. d.
14	1 17 7	28	2 11 1	42	3 11 8	56	5 10 1
15	1 18 7	29	2 12 3	43	3 13 8	57	5 14 0
16	1 19 8	30	2 13 5	44	3 15 9	58	5 18 2
17	2 0 8	31	2 14 7	45	3 17 11	59	6 2 8
18	2 1 8	32	2 15 9	46	4 0 2	60	6 7 4
19	2 2 8	33	2 17 1	47	4 2 7	61	6 12 4
20	2 3 7	34	2 18 5	48	4 5 1	62	6 17 9
21	2 4 6	35	2 19 10	49	4 7 10	63	7 3 7
22	2 5 4	36	3 1 4	50	4 10 8	64	7 9 10
23	2 6 3	37	3 2 10	51	4 13 6	65	7 16 9
24	2 7 1	38	3 4 6	52	4 16 5	66	8 4 1
25	2 8 1	39	3 6 2	53	4 19 7	67	8 12 1
26	2 9 1	40	3 7 11	54	5 2 10		
27	2 10 1	41	3 9 9	55	5 6 4		

☞ *A Court of Directors is held every* Wednesday, *from Eleven to One o'Clock, to receive Proposals for new Assurances; and a Short Account of the Society may be had on Application, personally or by post, at the Office.*

ARTHUR MORGAN, *Actuary.*

EQUITY AND LAW LIFE ASSURANCE SOCIETY,

18, LINCOLN'S-INN FIELDS, LONDON, W.C.

CAPITAL £1,000,000, FULLY SUBSCRIBED.

Trustees.

THE RIGHT HON. LORD CRANWORTH.
THE RIGHT HON. LORD MONTEAGLE.
THE RIGHT HON. THE LORD CHIEF JUSTICE ERLE.
THE RIGHT HON. THE LORD CHIEF BARON.
THE RIGHT HON. SIR J. TAYLOR COLERIDGE.
CHARLES PURTON COOPER, Esq., Q.C., LL.D., F.R.S.
GEORGE CAPRON, Esq.

Directors.

GEORGE LAKE RUSSELL, Esq., *Chairman.*
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ROBERT J. P. BROUGHTON, Esq.
ANTHONY CLEASBY, Esq., Q.C.
JOHN ELLIS CLOWES, Esq.
CHARLES J. DIMOND, Esq.
SIMON DUNNING, Esq.
JOHN WILLIAM HAWKINS, Esq.
WILLIAM E. HILLIARD, Esq.
N. HOLLINGSWORTH, Esq.
THOMAS HUGHES, Esq.
JOHN ILIFFE, Esq.
THOMAS GLOVER KENSIT, Esq.
CHARLES HENRY MOORE, Esq.
EDMUND F. MOORE, Esq.
WILLIAM BENFORD NELSON, Esq.
FREDERICK PEAKE, Esq.
GEORGE W. K. POTTER, Esq.
THE QUEEN'S ADVOCATE.
W. B. S. RACKHAM, Esq.
GEORGE ROBINS, Esq.
ALFRED H. SHADWELL, Esq.
RICHARD SMITH, Esq.

Auditors.

Elected by the Proprietors.
JOHN BOODLE, Esq.
ELLIS CLOWES, Esq.

Elected by the Assured.
JOHN C. TEMPLER, Esq.
ARTHUR H. BAILEY, Esq.

Solicitor.—GEORGE ROOPER, Esq., 26, Lincoln's-inn Fields.
Medical Officer.—W. O. MARKHAM, M.D., 3, Harley Street.
Actuary and Secretary.—THOMAS BOND SPRAGUE, Esq., M.A.

The INCOME of the year 1863 was 78,595*l.* 6*s.* 7*d.*, and the total OUTGOINGS were 32,730*l.* 17*s.* The difference, 45,864*l.* 9*s.* 7*d.*, or nearly 58 per cent. of the total Income, was added to the Assets, as the result of the year's transactions.

The ASSETS amounted, on the 31st December last, to 396,644*l.* 16*s.*

The EXPENSES of MANAGEMENT are less than *Five per cent.* on the Income.

NINE-TENTHS of the Total Profits are divided among the Assured. Considerably more than one-tenth of the Profits is derived from Policies which do not participate in the Profits, so that the Assured have larger Bonuses than if they formed a Mutual Insurance Company, and received the whole of the Profits derived from their own Policies.

The PREMIUMS are calculated for every half-year of Age.

NOTICES OF ASSIGNMENT OF POLICIES registered and acknowledged without charge. Printed Forms of Notices of Assignment furnished, if desired.

LOANS granted in connection with Life Assurance upon Life Interests and Reversions, and other approved security.

The following TABLE *shows the Amounts of the Bonuses added to Policies of* 1,000*l.* *on which Five Annual Premiums had been paid on* 31*st December,* 1859:—

Age at Date of Assurance.	Sum Assured.	Premium Payable.	Bonus added to Sum Assured.	Cash Value of Bonus.
	£.	£. s. d.	£. s. d.	£. s. d.
20	1000	19 2 6	81 0 0	22 0 0
30	1000	24 8 4	89 0 0	29 10 0
40	1000	32 5 0	100 0 0	42 0 0
50	1000	45 7 6	116 10 0	61 10 0
60	1000	71 4 2	162 0 0	99 5 0

GUARDIAN
FIRE AND LIFE ASSURANCE COMPANY,

No. 11, LOMBARD STREET, LONDON, E.C.

ESTABLISHED 1821.

SUBSCRIBED CAPITAL, £2,000,000.

Directors.

CHARLES WILLIAM CURTIS, Esq., *Chairman.*
CHARLES F. DEVAS, Esq., *Deputy Chairman.*

HENRY HULSE BERENS, Esq.
H. BONHAM-CARTER, Esq.
FRANCIS HART DYKE, Esq.
Sir MINTO FARQUHAR, Bart., M.P.
Sir WALTER R. FARQUHAR, Bart.
JAMES GOODSON, Esq.
THOMSON HANKEY, Esq., M.P.
JOHN G. HUBBARD, Esq., M.P.
FREDERICK H. JANSON, Esq.
G. J. SHAW LEFEVRE, Esq., M.P.
JOHN MARTIN, Esq.
ROWLAND MITCHELL, Esq.
JAMES MORRIS, Esq.
HENRY NORMAN, Esq.
HENRY R. REYNOLDS, Esq.
ABRAHAM J. ROBARTS, Esq.
WILLIAM STEVEN, Esq.
HENRY VIGNE, Esq.

Auditors.

LEWIS LOYD, Esq.
CORNELIUS PAINE, Jun., Esq.
HENRY SYKES THORNTON, Esq.
NOEL WHITING, Esq.

THOMAS TALLEMACH, Esq., *Secretary.*
SAMUEL BROWN, Esq., *Actuary.*

Physician.—Dr. J. RUSSELL REYNOLDS, 38, Grosvenor Street.
Solicitors.—Messrs. PARKIN and PAGDEN, 5, New Square, Lincoln's Inn.
Bankers.—Messrs. MARTIN, 68, Lombard Street; Messrs. COUTTS, Strand.

LIFE DEPARTMENT.

Under the Provisions of an Act of Parliament, this Company now offers to new Insurers EIGHTY PER CENT. OF THE PROFITS, AT QUINQUENNIAL DIVISIONS, OR A LOW RATE OF PREMIUM, without participation of Profits.

Since 1821, Reversionary Bonuses of £1,058,000 have been allotted to the Assured out of Profits.

At Christmas, 1859, the Life Assurances in force, with Bonuses, amounted to £4,730,000, the Income from the Life Branch £207,000, and the Life Assurance Fund (independent of the Capital) £1,618,000, while the total claims paid (independent of Bonuses) amounted to £3,247,145.

Example of Annual Premiums for the Assurance of £100 on Death.

Age.	With Profits.	Without Profits.	Age.	With Profits.	Without Profits.
	£. s. d.	£. s. d.		£. s. d.	£. s. d.
20	2 1 0	1 13 3	40	3 5 0	2 17 0
25	2 5 4	1 17 4	45	3 14 11	3 6 11
30	2 10 7	2 2 7	50	4 8 0	4 0 0
35	2 17 0	2 9 0	60	6 7 2	6 0 0

Policies issued free of every charge except the Premium.

FIRE DEPARTMENT.

Insurances effected on every description of Property at home and abroad. Annual Premium for £100 on Ordinary Risks is 1*s.* 6*d.* The annual Duty to Government is 3*s.* for £100, except on Stock, Machinery, Fixtures, and Utensils in Trade, on which the duty is only 1*s.* 6*d.* Policies are issued free of every charge except for Premium and Annual Duty, when the Premium amounts to 5*s.*

No expense in transferring from another Office. Claims liberally and promptly settled.

THE LONDON ASSURANCE CORPORATION,

FOR FIRE, LIFE, AND MARINE ASSURANCES.

Incorporated by Royal Charter, A.D. 1720.

Offices.—No. 7, ROYAL EXCHANGE, E.C., AND No. 7, PALL MALL, S.W.

BONAMY DOBREE, Esq., *Governor.*
PATRICK F. ROBERTSON, Esq., *Sub-Governor.*
RICHARD BAGGALLAY, Esq., *Deputy-Governor.*

Directors.

NATH. ALEXANDER, Esq.	JOHN ENTWISLE, Esq.	CHARLES LYALL, Esq.
J. ALVES ARBUTHNOT, Esq.	ROBERT GILLESPIE, Esq.	THOMAS NAGHTEN, Esq.
H. BONHAM BAX, Esq.	H. GEO. GORDON, Esq.	JOHN ORD, Esq.
JAMES BLYTH, Esq.	EDWIN GOWER, Esq.	CAPT. R. W. PELLY, R.N.
EDWARD BUDD, Esq.	SAM. GREGSON, Esq., M.P.	DAVID POWELL, Esq.
MARK W. COLLET, Esq.	A. C. GUTHRIE, Esq.	WILLIAM RENNIE, Esq.
CHARLES CRAWLEY, Esq.	J. ALEX. HANKEY, Esq.	ALEXANDER TROTTER, Esq.
F. G. DALGETY, Esq.	LOUIS HUTH, Esq.	LESTOCK P. WILSON, Esq.

Secretary.—JOHN LAURENCE, Esq. *Actuary.*—ARTHUR H. BAILEY, Esq.

Underwriter.—JOHN ANTHONY RUCKER, Esq.

Manager of the Fire Department.—THOS. B. BATEMAN, Esq.

Physicians.—GEORGE BUDD, M.D., F.R.S., 20 Dover-street, Piccadilly;
EDWARD CLAPTON, M.D., 4 St. Thomas's-street, Southwark.

WEST END OFFICE, No. 7, PALL MALL, S.W.

Committee. — Two Members of the Court of Directors in rotation, and HENRY KINGSCOTE, Esq., and JOHN TIDD PRATT, Esq.

LIFE DEPARTMENT.

This Corporation has granted Assurances on Lives for a *period exceeding* ONE HUNDRED AND FORTY YEARS, having issued its first Policy on the 7th June, 1721.

Two-thirds of the entire Profits, *without any deduction for expenses of management*, are allotted to the Assured. This arrangement will be found to be more advantageous to the Policy holders, than an apparently larger proportion of the Profits, subject to the expenses of management.

Assurances may be effected without Participation in Profits, at low rates of Premium, or with Participation in Profits, upon either of the following plans, viz.:

By an Annual Abatement of Premium on Policies of Five Years' Standing and upwards. Upon this plan the abatement from the original Premium for the year 1864 was at the rate of 40 per cent.

By appropriating the Profits at the end of every Five Years, either in increase of the Sum Assured, or as an immediate Cash payment.

Examples of the Bonus additions to the Sum Assured on Policies of Fifteen Years' standing, are subjoined.

Age when Assured.	Sum Assured.	Bonus Added.	Age when Assured.	Sum Assured.	Bonus Added.
	£.	£. s. d.		£.	£. s. d.
27	1,000	209 10 0	42	1,000	257 11 0
31	1,000	233 5 0	50	1,000	262 6 0
36	1,000	243 14 0	60	1,000	297 2 0

FIRE DEPARTMENT.

Fire Insurances effected at Moderate Rates upon every Description of Property.

DAMAGE CAUSED BY EXPLOSION OF GAS MADE GOOD.

Commission allowed to Brokers and Agents effecting Foreign and Ship Insurances.

MARINE DEPARTMENT.

Marine Insurances are effected at the HEAD OFFICE of the Corporation.

The Fifth Division of Profit up to the 20th November, 1862.

NATIONAL PROVIDENT INSTITUTION.

GRACECHURCH STREET, LONDON.

Established December 1835.

MUTUAL ASSURANCE WITHOUT INDIVIDUAL LIABILITY.

Directors.

Chairman.—SAMUEL HAYHURST LUCAS, Esq.
Deputy Chairman.—ROBERT INGHAM, Esq., M.P.

JOHN BRADBURY, Esq.
HENRY WHITE CASTLE, Esq.
THOMAS CHAMBERS, Esq., Q.C.
JOSEPH FELL CHRISTY, Esq.
HENRY CONSTABLE, Esq.
JOHN FELTHAM, Esq.
JOSEPH FREEMAN, Esq.
CHARLES GILPIN, Esq., M.P.
CHARLES REED, Esq., F.S.A.
JONATHAN THORP, Esq.
CHARLES WHETHAM, Esq.

Medical Officers—THOMAS HODGKIN, Esq., M.D. JOHN GAY, Esq., F.R.C.S.
Consulting Actuary.—CHARLES ANSELL, Esq., F.R.S.

	£.
Amount of Profit of the five years ending 20th November, 1862 . .	531,965 3 4
Making the Total Profit divided	1,227,258 5 3

INSTANCES OF REDUCTIONS IN PREMIUMS.

Date of Policy.	Age.	Sum Assured.	Original Premium.	Premium now Payable.	Reduction per cent.
		£.	£. s. d.	£. s. d.	
October, 1836	49	1000	43 11 8	0 7 10	99
March, 1840	48	200	8 10 4	1 19 4	77
January, 1839	36	1000	29 10 0	10 12 8	64
December, 1850	58	2000	126 0 0	64 6 8	49
January, 1852	35	500	14 11 8	9 2 8	37½
January, 1859	49	3000	132 0 0	98 7 10	25½

THE FOLLOWING ARE A FEW INSTANCES WHEREIN THE PREMIUMS HAVE BECOME EXTINCT, AND ANNUITIES FOR THE NEXT FIVE YEARS GRANTED IN ADDITION.

Date of Policy.	Age.	Sum Assured.	Original Premium now extinct.	Annuity Payable.
		£.	£. s. d.	£. s. d.
April, 1836	54	1000	52 0 0	8 3 8
August, 1836	56	500	29 3 4	9 1 3
August, 1837	60	2000	135 3 4	75 6 8
March, 1842	61	500	32 19 2	1 17 4

The Amount of Claims paid to the 20th Nov. 1863, was £1,453,608 6*s.* 10*d.*
The Gross Annual Income was £378,337 17*s.* 10*d.*
The Accumulated Fund £2,303,056 14*s.* 9*d.*
The Prospectus, with the last Report of the Directors, and with Illustrations of the Profits for the Five Years ending 20th Nov. 1862, and every information, may be had on application.

JOSEPH MARSH, *Secretary,*

October 13, 1864.

NORWICH UNION FIRE OFFICE.

INSTITUTED 1797.

Office—29 FLEET STREET, E.C.

Secretary.—Sir SAMUEL BIGNOLD. **London Agent.**—C. J. BUNTON, Esq.

INSURANCES are granted by this Society on buildings, goods, merchandise and effects, ships in port, harbour, or dock, from loss, or damage by fire, in any part of the United Kingdom of Great Britain and Ireland.

THE BONUS SYSTEM.

Three-fifths of the Profits of the Company are periodically distributed as a Bonus to parties insuring, who have thus from time to time received from the Society sums amounting in the aggregate to nearly **£440,000.**

A FURTHER BONUS of £52,027 has now been declared in respect of Premiums paid prior to Michaelmas, 1863, and will be paid by deduction from the Current Premium on the renewal of existing insurances at Michaelmas, 1864, and the three following quarters.

EXAMPLES OF PREMIUMS REDUCED BY THIS BONUS.

No. of Policy.	Sum Assured.	Annual Premium.	Reduced Premium for 1864.
	£.	£. s. d.	£. s. d.
441,411	92,540	222 4 4	120 19 2
450,156	12,000	63 0 0	35 0 0
484,173	6,800	35 14 0	19 16 8
506,957	5,000	7 10 0	4 6 4

The Rates of Premium are in no case higher than those charged by the other principal Offices giving no Bonus to their Insurers.

No charge is made for the Policy or Stamp when the Insurance exceeds £300, or for Insurances transferred from other Offices.

The Business of the Company exceeds Seventy Millions, and, owing to the liberality with which its engagements have been performed, is rapidly increasing. The duty paid to Government for the year 1863 was £84,152 11*s.* 9*d*; the amount insured on Farming Stock was £10,203,272.

The Norwich Union Fire Office is the LARGEST OFFICE making a return to its Insurers.

NORWICH UNION LIFE INSURANCE SOCIETY.

INSTITUTED 1808, UPON THE PRINCIPLE OF MUTUAL ASSURANCE.

Office—29 FLEET STREET, E.C.

Secretary.—Sir SAMUEL BIGNOLD. **Actuary.**—C. J. BUNTON, Esq.

The Whole of the Profits belong to the Assured.

The Accumulations exceed £2,000,000.

The Income of the Society exceeds £250,000.

The Amount Assured is upwards of £5,570,000.

Since its commencement, 35,100 Policies have been issued, and £6,565,358 paid to the representatives of 7,820 deceased Members.

The Bonuses may be applied at the option of the Assured in reduction of the future Annual Premium, or their cash value received.

The Rates of Premium are 10 per cent. less than those of most Offices—a benefit in itself equivalent to an Annual Bonus. One-half of the first five Annual Premiums may remain as a permanent charge upon Policies effected for the whole duration of life.

Annuities and Special Risks are undertaken upon favourable terms.

This Society is entirely distinct from the Norwich Union Fire Office. The aggregate Annual Income of the two Societies is nearly HALF A MILLION STERLING.

For Prospectuses apply to the Society's Offices, 29 Fleet Street, E.C., and Surrey Street, Norwich.

Universal Life Assurance Society,

1 KING WILLIAM STREET, LONDON, E.C.

(Established 1834.)

WITH BRANCHES AT CALCUTTA, MADRAS, AND BOMBAY.

DIRECTORS.

JOHN FARLEY LEITH, Esq., *Chairman.*

FRANCIS MACNAGHTEN, Esq., *Deputy-Chairman.*

AUGUSTUS BOSANQUET, Esq.
GEORGE HENRY BROWN, Esq.
The Honourable JAMES BYNG.
ELLIS WATKIN CUNLIFFE, Esq.
HERBERT GEO. JONES, Serj.-at-Law.
WILLIAM NORRIS NICHOLSON, Esq.
Sir MACDONALD STEPHENSON.

At the THIRTIETH ANNUAL GENERAL MEETING of this Society, a reduction of 50 per cent. upon the Premiums for the current year was declared upon all Participating Policies. This abatement of One-half the Premium, upon Indian as well as English Insurances, was stated to be a larger advantage to the Assured than any Society, with Rates of Premium so low as those of the 'Universal,' and retaining so ample a Reserve for its liabilities, had been able to afford.

Policies have been issued since 1834 for	**£7,035,333**
The Claims Paid since 1834 amount to the Sum of...	**1,299,234**
The Amount Assured under existing Policies is... ...	**2,323,645**
The Amount of existing Assets exceeds	**808,000**
Annual Income exceeds	**135,000**

EXAMPLES OF REDUCED PREMIUMS.

ENGLISH POLICIES.

Age in Policy.	Sum Assured.	Original Premium.	Reduced Premium, May, 1864-65.
	£	£ s. d.	£ s. d.
20	1000	19 6 8	9 13 4
30	1000	24 8 4	12 4 2
40	1000	31 10 0	15 15 0

INDIAN (CIVIL).

Age in Policy.	Sum Assured.	Original Premium.	Reduced Premium, May 1864-65.	Further Reduced Premium, if in Europe, May, 1864-5.
	£	£ s. d.	£ s. d.	£ s. d.
20	1000	42 0 0	21 0 0	9 13 4
30	1000	48 0 0	24 0 0	12 4 2
40	1000	59 0 0	29 10 0	15 15 0
		INDIAN (MILITARY),		
20	1000	47 0 0	23 10 0	9 13 4
30	1000	54 0 0	27 0 0	12 4 2
40	1000	63 0 0	31 10 0	15 15 0

The Society's New Prospectus may be had on application; and persons properly qualified desirous of appointments as Agents will please to apply to

FREDK. HENDRIKS, *Actuary and Secretary.*

GENERAL
LIFE AND FIRE ASSURANCE COMPANY,
62, KING WILLIAM STREET, E.C., LONDON.

ESTABLISHED 1837.

CAPITAL, £1,000,000.

Directors.

THOS. CHALLIS, Esq., Ald., *Chairman.* | JAMES PILKINGTON, Esq., M.P., *Dep.-Chairman.*

JAMES ABBISS, Esq., Alderman.
JACOB GEORGE COPE, Esq.
WILLIAM DELF, Esq.
BENJAMIN EDGINGTON, Esq.
JOHN T. FLETCHER, Esq.
GEORGE S. FREEMAN, Esq.
CHARLES JAMES HEATH, Esq.
ANDREW LUSK, Esq., Ald.
RIGHT HON. C. F. VILLIERS, M.P.
EDWARD WILSON, Esq.

THOMAS PRICE, LL.D., *Secretary.* | FRANCIS CUTHBERTSON, Esq., *Agency Secretary.*

Progress of the Company.

The new Life Business of the last Quinquennial Period, which closed 31st December, 1862, was 148 per cent. more than that of the preceding similar term; while the Fire Premiums were 185 per cent. more.

A Bonus of 22 per cent., equal to a Reversionary Bonus of from 30 to 60 per cent., according to the age of the Assured, has just been declared.

Distinctive Features.

Prompt settlement of Claims, entire freedom of the Assured from responsibility, and the guaranteeship of a Capital of £1,000,000.

LIFE.—Policies assigned as Security not forfeited by Duelling, Suicide, or the execution of Judicial sentences.

Policies valid though the Assured die within the days of grace, prior to payment of the Renewal Premium.

FIRE.—Houses, Furniture, Stock-in-Trade, Farming Stock, Mills, Merchandise, Rent, Shipping in Docks, and other Risks, insured at moderate rates.

Premiums for renewal of Fire Policies received during the days of grace, whether a Fire has occurred or not, unless advised that renewal was not intended.

LOANS are advanced on personal security, and the deposit of a Life Policy.

A Liberal Commission allowed to Solicitors, Auctioneers, and Surveyors.

GOVERNESSES' BENEVOLENT INSTITUTION.

INCORPORATED BY ROYAL CHARTER,

WITH POWER TO HOLD LAND BY GIFT, PURCHASE, OR BEQUEST.

BOARD OF MANAGEMENT.

THE HON. WILLIAM ASHLEY.
PATRICK BLACK, Esq., M.D.
THE REV. ALFRED J. BUSS, B.A.
B. BOND CABBELL, Esq., F.R.S., F.S.A.
ARTHUR RISDON CAPEL, Esq.
JAMES CAPEL, Esq.
F. PATEY CHAPPELL, Esq.
THE LORD COLVILLE.
W. TIMBRELL ELLIOTT, Esq.
WILLIAM GILPIN, Esq.
JOHN WILLIAM HALE, Esq.
EDWARD R. HARTOPP, Esq., M.P.
THE HON. ARTHUR KINNAIRD, M.P.
THE REV. JOHN R. MAJOR, D.D.
J. TIDD PRATT, Esq., F.S.A.
THE EARL OF SHREWSBURY AND TALBOT.
W. JESSE STREET, Esq.
EDWARD THORNTON, Esq.
EDWARD WILDER, Esq
T. PARRY WOODCOCK, Esq.

Honorary Secretary.—MRS. DAVID LAING.
Secretary.—CHARLES WILLIAM KLUGH, Esq., 32, Sackville Street, W.
Secretary to the Provident Fund.—MR. JOHN EVEREST.

The objects of this Society are—

Temporary Assistance to Governesses in distress, afforded privately and delicately, through the Ladies' Committee.

Annuity Fund. Elective Annuities to Aged Governesses, secured on invested capital, and thus independent of the prosperity of the Institution.

Provident Fund. Provident Annuities purchased by Ladies in any way connected with Education, upon Government Security, agreeably to the Act of Parliament. This branch includes a Savings Bank.

A Home for Governesses during the intervals between their engagements.

A System of Registration, entirely free of expense.

An Asylum for the Aged.

Membership consists in the payment of an annual Guinea, or of Ten Guineas in one sum. Subscribers are entitled to vote for Annuities in the proportion of one Vote for each Annual Half-Guinea not in arrear, and for each Donation of Five Guineas. Subscriptions are due on the 1st of January, and can always be remitted by Post Office Order, or by a Cheque crossed "Sir S. Scott & Co."

GRESHAM
LIFE ASSURANCE SOCIETY,
37 OLD JEWRY, LONDON, E.C.

ORIGINAL TRUSTEES.

MATTHEW MARSHALL, Esq., Bank of England.
STEPHEN OLDING, Esq., Lombard Street. WILLIAM SMEE, Esq., Bank of England.

DIRECTORS.

WILLIAM TABOR, Esq., *Chairman*. JOHN BEADNELL, Esq., *Deputy-Chairman*.

J. LYNE HANCOCK, Esq.	EDWARD SOLLY, F.R.S
GEORGE LOWE, F.R.S.	W. H. THORNTHWAITE, Esq.
ALFRED SMEE, F.R.S.	GEORGE TYLER, Esq.

JOSEPH WILLIAMS, Esq.

Bankers—BANK OF ENGLAND, and OLDING, SHARPE, & Co.
Medical Referee—ALFRED SMEE, F.R.S., Surgeon to the Bank of England.
Solicitor—T. H. DEVONSHIRE, Esq., 1 Frederick Place, Old Jewry.
Actuary & Secretary—F. ALLAN CURTIS, Esq.

Loans may be obtained in connexion with policies effected with the Company. The sum that has been already advanced in this respect approaches half a million.

Policies are effected without loss of time, every day, from 10 to 4; Saturdays 10 to 2; Medical Officer daily at 11. The Board assembles on Thursdays at half-past 12.

A great portion of the Society's Policies are upon first-class lives, but the Company being specifically established to include the Insurance of individuals of regular and temperate habits in whom health may be more or less impaired, the Board openly seek to transact business of this class at equitable rates, founded upon a careful consideration of these cases. Lives of this description, declined at some offices, are accordingly open to acceptance at the Gresham.

Annual Reports, Prospectuses, and other Forms on application.

F. ALLAN CURTIS, *Actuary and Secretary.*

IMPERIAL LIFE INSURANCE COMPANY,

1, OLD BROAD STREET, LONDON, E.C.

Instituted 1820.

The Distinguishing Feature of this Company is Perfect Security.
The Amount Insured from the Commencement exceeds £71,500,000.
The Amount of Claims and Returns paid, £2,300,000.
The Proprietors' Capital is £750,000.
The Fund accumulated from Premiums exceeds 10 years of the Premium Income, and 34 per cent. on the Insurances in force.

DIRECTORS (1864).

EDWARD HENRY CHAPMAN, Esq., *Chairman.*
MARTIN TUCKER SMITH, Esq., M.P., *Deputy-Chairman.*

THOMAS GEO. BARCLAY, Esq.	THOS. NEWMAN HUNT, Esq.
JAMES C. C. BELL, Esq.	CHARLES MARRYAT, Esq.
CHARLES CAVE, Esq.	JAMES G. MURDOCH, Esq.
HENRY DAVIDSON Esq.	FREDERICK PATTISON, Esq.
GEORGE FIELD, Esq.	G. J. GRAYSTONE REID, Esq.
GEORGE HIBBERT, Esq.	WILLIAM R. ROBINSON, Esq.
SAMUEL HIBBERT, Esq.	

Auditors—JOHN H. ASTELL, Esq., M.P., PAUL BUTLER, Esq., JAMES SCOTT, Esq.

SAMUEL INGALL, *Actuary.*

ROYAL EXCHANGE ASSURANCE CORPORATION,

Established A.D. 1720, by Charter of King George the First, and confirmed by Special Acts of Parliament.

CHIEF OFFICE, ROYAL EXCHANGE, LONDON; BRANCH, 29, PALL MALL.

OCTAVIUS WIGRAM, Esq., *Governor.* Sir JOHN HENRY PELLY, Bart., *Sub-Governor.*
JAMES STEWART HODGSON, Esq., *Deputy-Governor.*

DIRECTORS.

HENRY BAINBRIDGE, Esq.
ROBERT BARCLAY, Esq.
JOHN GARRATT CATTLEY, Esq.
MARK CURRIE CLOSE, Esq.
EDWARD JAMES DANIELL, Esq.
WILLIAM DAVIDSON, Esq.
THOMAS DENT, Esq.
ALEXANDER DRUCE, Esq.
FREDERICK JOSEPH EDLMANN, Esq.
CHARLES HERMANN GOSCHEN, Esq.
RIVERSDALE WILLIAM GRENFELL, Esq.
ROBERT AMADEUS HEATH, Esq.
WILLIAM TETLOW HIBBERT, Esq.
WILMOT HOLLAND, Esq.
GEORGE FORBES MALCOLMSON, Esq.
CHARLES JOHN MANNING, Esq.
HENRY NELSON, Esq.
HON. JOSCELINE WM. PERCY.
CHARLES ROBINSON, Esq.
SAMUEL LEO SCHUSTER, Esq.
ERIC CARRINGTON SMITH, Esq.
JOSEPH SOMES, Esq., M.P.
WILLIAM WALLACE, Esq.
CHARLES BARING YOUNG, Esq.

FIRE, LIFE, and MARINE ASSURANCES on Liberal Terms. Life Assurances with or without participation in Profits. Divisions of Profit every **Five Years.**

Any Sum up to £15,000 insured on the same Life.

A liberal participation in Profits, with the guarantee of a large invested Capital-Stock, and exemption, under Royal Charter, from the Liabilities of Partnership. The advantages of modern practice, with the security of an Office whose resources have been tested by the experience of **nearly a Century and a Half.** The Corporation have always allowed the Assured to serve in the Militia, Yeomanry, or Volunteer Corps, within the United Kingdom, free of charge. A Prospectus and Table of Bonuses will be forwarded on application.

ROBERT P. STEELE, *Secretary.*

The Reversionary Bonus on British Policies has averaged nearly 2 *per cent. per annum* upon the sum assured.

ESTABLISHED 1838.

VICTORIA AND LEGAL & COMMERCIAL

LIFE ASSURANCE COMPANY.

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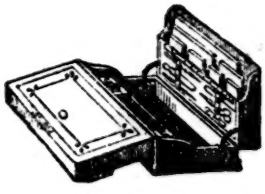

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